TEACHER-BASED FACTORS INFLUENCING THE IMPLEMENTATION OF COMPETENCY-BASED EDUCATION IN PRE-PRIMARY SCHOOLS IN ALDAI SUB-COUNTY, NANDI COUNTY

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Research Project Submitted in Partial fulfillment of the Requirements for the Award of Master's Degree of in Early Childhood Education of Africa Nazarene University

2026

DECLARATION

DECLARATION BY THE CANDIDATE

This research project is my original work and to the best of my knowledge this work has not been published and/or presented to any University for an award of a degree.

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DECLARATION BY THE UNIVERSITY SUPERVISORS

This project has been submitted for examination with our approval as the university supervisors.

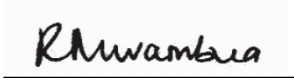
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DEDICATION

I dedicate this work to my Husband Joshua Biwott, my children June Biwott, Roy Biwott, Jael Biwott and Raymond Biwott.

ACKNOWLEDGMENT

I sincerely express my deepest gratitude to all those who contributed to the successful completion of this research proposal. I am especially thankful to Dr. Eric Osoro and Prof. Rebecca Wambua for their unwavering guidance and dedicated support throughout my research journey. I also extend my appreciation to my classmates, for their valuable insights and assistance during this work.

ABSTRACT

Kenya has implemented Competency-Based Education (CBE) as a curriculum reform aimed at equipping learners with practical skills, values, and competencies for lifelong learning and effective societal participation. This study investigated teacher-based factors influencing CBE implementation among pre-primary learners in Aldai Sub-County, Nandi County, Kenya. The specific objectives were to: examine the influence of teachers' pedagogical skills on CBE implementation; determine the influence of teachers' attitudes toward CBE on its implementation; and evaluate the influence of teachers' professional competence on CBE implementation in pre-primary schools in Aldai Sub-County. Guided by Dewey's Social Constructivism Theory, the study adopted a descriptive survey design with a census of 158 respondents, comprising 106 pre-primary teachers and 52 head teachers from all public pre-primary schools in the sub-county. Data were collected through questionnaires, interview schedules, and document analysis guides, with validity established via expert review and reliability assessed using the split-half technique and Cronbach's alpha. Quantitative data were analyzed using SPSS version 29, while qualitative data were analyzed thematically using NVivo. The findings showed that pedagogical skills, attitudes toward CBE, and professional competence each significantly and positively influenced implementation, though challenges remained in competency-based assessment, resource adequacy, and translating theory into practice. Teachers generally held positive attitudes, but motivation was constrained by documentation demands, overcrowded classrooms, and limited institutional support. The study concluded that teachers' pedagogical skills positively influence the implementation of Competency-Based Education (CBE) in pre-primary schools in Aldai Sub-County, although deficiencies in competency-based assessment practices limit the effective realization of curriculum objectives. The study concluded that teachers' positive attitudes toward CBE support its implementation; however, the sustainability of these attitudes depends on adequate motivation, resources, leadership support, and favorable working conditions. The study concluded that teachers' professional competence positively influences CBE implementation, but variations in content mastery and the ability to translate theory into practice constrain the consistent and effective delivery of competency-based learning experiences. Regarding teachers' pedagogical skills, the study recommends that the Ministry of Education, through KICD, should enhance continuous school-based professional development focusing on competency-based assessment and learner-centered pedagogies. On teachers' attitudes, the study recommends that the Nandi County Government, Sub-County Education Directorate, and school heads should strengthen teacher motivation through recognition, mentoring, support forums, and adequate staffing to promote positive attitudes toward CBE implementation. Regarding teachers' professional competence, the study recommends that the TSC and KICD should reinforce pre-service and in-service training by emphasizing competency-based assessment, content mastery, and practical classroom application. The study recommended that further research should examine long-term effects of teacher motivation and support using longitudinal, mixed-methods approaches.

TABLE OF CONTENTS

DECLARATION ..... **ii**
DEDICATION ..... **iii**
ACKNOWLEDGMENT ..... **iv**
ABSTRACT ..... **v**
TABLE OF CONTENTS ..... **vi**
LIST OF TABLES ..... **x**
LIST OF FIGURES ..... **xi**
LIST OF ABBREVIATIONS AND ACRONYMS ..... **xii**
OPERATIONAL DEFINITION OF TERMS ..... **xiii**
CHAPTER ONE **1**
INTRODUCTION **1**
1.1 Introduction 1
1.2 Background of the Study 1
1.3 Statement of the Problem 5
1.4 Purpose of the Study 6
1.5 Objectives of the Study 6
1.6 Research Questions 7
1.7 Significance of the Study 7
1.8 Scope/Delimitations of the Study 8
1.9 Limitation of the Study 8
1.10 Assumption of the Study 9
1.11 Conceptual Framework 9
CHAPTER TWO **11**
LITERATURE REVIEW **11**
2.0 Introduction 11
2.2 Theoretical Framework 12
2.2.1 Dewey's Social Constructivism 12
2.3 The Concept of the Competency-Based Curriculum 15
2.4 Empirical Review 17
2.4.1 Teachers' Pedagogical Skills and the Implementation of CBE 17
2.4.2 Teachers' Attitude and Implementation of CBE 20
2.5 Summary of Literature Review and Identified Gaps 26

CHAPTER THREE **27**
RESEARCH DESIGN AND METHODOLOGY **27**
3.1 Introduction 27
3.2 Research Design 28
3.3 Research Site 29
3.4 Target Population 30
3.5 Study Sample 30
3.5.1 Sample Size 31
3.5.2 Sampling Procedures 31
3.6 Data Collection 31
3.6.1 Data Collection Instruments 31
3.6.1.1 Questionnaires for Teachers 32
3.6.1.2 Interview Schedule for Head Teachers 32
3.6.1.3 Document Analysis Guide 33
3.6.1.4 Lesson Observation 33
3.6.2 Pilot Testing of Research Instruments 33
3.6.3 Instrument Reliability 34
3.6.4 Instrument Validity 35
3.6.5 Data Collection Procedures 35
3.7 Data Analysis 37
3.7.1 Underlying Assumptions of the Multiple Linear Regression Model 38
3.8 Legal and Ethical Considerations 39
CHAPTER FOUR **40**
DATA ANALYSIS AND FINDINGS **40**
4.1 Introduction 40
4.2 Response Return Rate 41
4.3 Demographic Characteristics of the Respondents 41
4.3.1 Gender of the Respondents 41
4.3.2 Distribution of Respondents by Age 42
4.3.3 Respondents' Highest Level of Education 43
4.3.4 Professional Qualifications of the Respondents 44
4.3.5 Respondents' Teaching Experience in Pre-Primary 45
4.3.6 Employment Status of the Respondents 46
4.4 Descriptive Analysis of Teacher-Based Factors 46

4.4.1 Teachers' Pedagogical Skills and CBE Implementation....47
4.4.2 Teachers' Attitudes Toward CBE and Its Influence on Implementation....50
4.4.3 Teachers' Professional Competence and CBE Implementation....53
4.4.4 Implementation of CBE in Pre-Primary Schools....56
4.5 Thematic Analysis of Qualitative Data from School Heads....59
4.5.1 Thematic Findings on Teachers' Pedagogical Skills....59
4.5.2 Thematic Findings on Teachers' Attitudes Toward CBE....61
4.5.3 Thematic Findings on Teachers' Professional Competence....63
4.6 Correlation Analysis....65
4.7 Regression Analysis....66
4.8 Hypothesis Testing....69
CHAPTER FIVE....70
SUMMARY OF FINDINGS, DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS....70
5.2 Summary of the Findings....70
5.2.1 Influence of Teachers' Pedagogical Skills on CBE Implementation....70
5.2.2 Influence of Teachers' Attitudes Toward CBE on Its Implementation....71
5.2.3 Influence of Teachers' Professional Competence on CBE Implementation....71
5.2.4 Implementation of CBE in Pre-Primary Schools....72
5.3 Discussion of Findings....72
5.3.1 Teachers' Pedagogical Skills and CBE Implementation....72
5.3.2 Teachers' Attitudes Toward CBE and CBE Implementation....74
5.3.3 Teachers' Professional Competence and CBE Implementation....75
5.3.4 CBE Implementation....77
5.4 Conclusions....79
5.5 Recommendations....80
5.6 Suggestions for Further Research....81
REFERENCES....83
APPENDICES....99
APPENDIX I: INTRODUCTORY LETTER....99
APPENDIX II: QUESTIONNAIRE FOR ECDE TEACHERS....100
APPENDIX III: INTERVIEW QUESTIONS FOR SCHOOL HEADS....103
APPENDIX IV: INTRODUCTORY LETTER FROM THE UNIVERSITY....105
APPENDIX V: NACOSTI PERMIT....106

APPENDIX VI: MAP OF STUDY AREA 107
APPENDIX VII: PLAGIARISM REPORT.....108

LIST OF TABLES

Table 3.1: Distribution of Target Population for Head Teachers and Pre-Primary School Teachers 30
Table 4.1: Response Return Rate 41
Table 4.2: Gender of the Respondents 42
Table 4.3: Distribution of Respondents by Age 42
Table 4.4: Highest Level of Education 43
Table 4.5: Professional Qualifications of the Respondents 44
Table 4.6: Teaching Experience of Respondents 45
Table 4.7: Employment Status of Respondents 46
Table 4.8: Teachers' Pedagogical Skills and CBE Implementation 48
Table 4.9: Teachers' Attitudes Toward CBE and Its Influence on Implementation 51
Table 4.10: Teachers' Professional Competence and CBE Implementation 54
Table 4.11: Implementation of CBE in Pre-Primary Schools 57
Table 4.12: Correlation Matrix 66
Table 4.13: Model Summary 67
Table 4.14: ANOVA Results 67
Table 4.15: Regression Coefficients 68
Table 4.16: Summary of Hypotheses Test Results 69

LIST OF FIGURES

Figure 1.1: Conceptual framework. 10

LIST OF ABBREVIATIONS AND ACRONYMS

CBE	Competency-Based Curriculum
CBE	Competency-Based Education
KICD	Kenya Institute of Curriculum Development
KNUT	Kenya National Union of Teachers
MOE	Ministry of Education
NACOSTI	National Commission for Science and Technology
PP1	Pre-Primary 1
PP2	Pre-Primary 2
SDGs	Sustainable Development Goals
SPSS	Statistical Package for Social Sciences
TSC	Teachers Service Commission
USA	United States of America

OPERATIONAL DEFINITION OF TERMS

Core Competencies – Denotes the learners' capabilities to communicate effectively, work collaboratively, think critically, solve problems, demonstrate creativity, and utilize digital tools in the learning process.

Curriculum Implementation – Refers to the capacity of pre-primary school teachers to design CBE lesson plans, integrate core competencies into instructional activities, and evaluate learners' progress using appropriate assessment rubrics.

Teacher Preparedness – Indicates the level of teachers' training in CBE, their proficiency with technology, and their overall understanding and perceptions of the CBE framework.

Teachers' Attitude – Represents pre-primary teachers' beliefs regarding the significance of CBE, the ease or difficulty of teaching it, and its relevance to meeting learners' developmental and educational needs.

Technological Skills – Refers to the teachers' competence in applying digital tools and media to support the delivery and facilitation of CBE lessons.

Training in CBE – Encompasses the frequency and duration of professional development sessions attended by pre-primary teachers, the specific CBE components covered, and the skills and knowledge gained through the training.

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CHAPTER ONE

INTRODUCTION

1.1 Introduction

In this chapter, background of the study, statement of the problem, purpose of the study, objectives of the study, research questions, significance and justification of the study, scope and delimitations of the study, limitation of the study, assumptions of the study and operational definition of terms are presented and discussed.

1.2 Background of the Study

Globally, education systems have increasingly shifted from traditional content-based approaches to Competency-Based Education (CBE) due to the growing demand for practical skills, creativity, critical thinking, and adaptability in modern economies. According to UNESCO (2021), CBE emphasizes learner-centered approaches that enable learners to acquire competencies applicable in real-life situations. This global shift has been driven by the recognition that traditional education models, which prioritize rote memorization and passive learning, are inadequate for preparing learners for twenty-first-century challenges. In the United States, the adoption of competency-based frameworks has been linked to improved student engagement, enhanced critical thinking capabilities, and better alignment between educational outcomes and workforce requirements (Levine & Patrick, 2019). Similarly, in Europe, countries such as Finland and Germany have successfully integrated competency-based approaches into their education systems, resulting in improved learner outcomes, including enhanced problem-solving abilities, creativity, and adaptability to changing economic conditions. Ruth and Ramadas (2019), in a quasi-experimental study conducted in India, established that competency-based approaches significantly enhanced learners' problem-solving skills and classroom engagement compared to traditional instructional methods. In China, research by Mpofu and Sefotho (2024) found that CBE implementation improved equitable access to quality education and strengthened practical learning outcomes, particularly in early childhood education settings. The global evidence consistently demonstrates that CBE fosters holistic learner development, promotes the acquisition of transferable skills, and better prepares learners for active participation in knowledge-based economies (Andiema, 2020). The increasing adoption of CBE across developed and developing nations underscores a growing consensus that education systems must

prioritize the development of competencies, including critical thinking, collaboration, communication, and creativity, to meet the evolving demands of contemporary societies.

Across Sub-Saharan Africa, education systems have increasingly embraced competency-based reforms as part of broader efforts to improve educational quality, relevance, and responsiveness to labour market demands. Countries such as South Africa, Rwanda, and Uganda have made significant strides in transitioning from content-based curricula to competency-based frameworks, recognizing that traditional education models have failed to adequately equip learners with the practical skills required for economic participation and social development (Sifuna & Obonyo, 2019). In South Africa, the introduction of the Curriculum and Assessment Policy Statement (CAPS) represented a shift toward competency-based approaches that emphasized learner-centered pedagogy, continuous assessment, and the integration of practical skills into the curriculum (Mpofu & Sefotho, 2024). Similarly, Rwanda's competency-based curriculum reforms have been accompanied by substantial investments in teacher training, instructional resources, and assessment systems designed to support the development of learner competencies (Sifuna & Obonyo, 2019). Kidega et al. (2023), in a study conducted in Uganda, found that teachers experienced significant challenges in implementing competency-based curriculum delivery due to inadequate pre-service training, limited professional development opportunities, and insufficient instructional resources. The researchers observed that teachers who received continuous professional development and instructional support demonstrated greater confidence and effectiveness in facilitating learner-centered pedagogies (Kidega et al., 2023). Mukhtar et al. (2020), in a survey study conducted in Tanzania, established that teacher preparedness and instructional support significantly influence the success of competency-based curriculum implementation, with teachers who possessed strong pedagogical content knowledge and positive attitudes toward reform demonstrating more effective implementation practices. Kabombwe and Mulenga (2019) emphasized that teachers require adequate pedagogical knowledge, learner-centered instructional skills, and assessment competencies to effectively facilitate CBE, noting that teacher-related challenges remain a major barrier to effective implementation across the region. In East Africa, particularly in Tanzania and Uganda, studies have identified teacher-related factors, including pedagogical skills, attitudes toward competency-based approaches, and professional competence, as critical determinants of curriculum implementation success (Mukhtar et al., 2020; Kidega et al.,

2023). However, despite the growing body of research on CBE implementation in Sub-Saharan Africa, significant gaps remain in understanding how teacher-related factors specifically influence the implementation of competency-based frameworks in early childhood education settings, which are fundamental to establishing strong learning foundations (Mpofu & Sefotho, 2024).

In Kenya, the Competency-Based Curriculum (CBC) was introduced in 2017 to replace the 8-4-4 system, which had been criticized for emphasizing rote learning, examination-oriented instruction, and theoretical knowledge at the expense of practical competency acquisition (Cheptoo & Ramdas, 2020). The CBC represents a fundamental shift in educational philosophy, prioritizing the development of learners' abilities to apply knowledge, skills, and attitudes in real-life situations across seven core competencies: communication and collaboration, critical thinking and problem-solving, creativity and imagination, citizenship, digital literacy, learning to learn, and self-efficacy (Kenya Institute of Curriculum Development, 2017). The successful implementation of CBC in Kenya has been significantly influenced by teacher-related factors, as teachers are the primary facilitators of curriculum delivery and the main agents of pedagogical change (Wambua, 2019). Research conducted in Kenya has consistently demonstrated that teachers trained under the traditional 8-4-4 system struggle to adapt to competency-based teaching approaches, particularly in early childhood development and education (ECDE) settings (Owala, 2021; Momanyi & Rop, 2019). Momanyi and Rop (2019) observed that teachers in rural schools lacked adequate exposure to competency-based pedagogies, affecting their effectiveness in curriculum delivery and their ability to facilitate learner-centered instruction. Similarly, Owala (2021), in a study conducted in Nandi County, found that ECDE teachers experienced significant difficulties implementing CBE due to inadequate pre-service and in-service training, limited access to instructional materials, and insufficient professional support systems. Rwigema and Andala (2022) further established that many teachers initially resisted CBC implementation because they perceived the curriculum reforms as demanding, complex, and difficult to implement, with teachers expressing concerns about increased workload, inadequate preparation, and insufficient institutional support. Waruingi, Mbogo, and Mambo (2022), in a mixed-methods study conducted in Kenya and Finland, found that while CBE promotes holistic learner development and improves practical skill acquisition, successful implementation depends significantly on teachers' pedagogical skills, positive attitudes toward reform,

and professional competence. Okeyo and Kanake (2021) observed that teachers who received targeted professional development in competency-based approaches demonstrated greater confidence in facilitating learner-centered instruction and reported more positive learner outcomes, including enhanced participation, engagement, and skill development. Despite the growing body of evidence on CBC implementation challenges in Kenya, limited empirical evidence exists on how specific teacher-related factors influence implementation of CBE in pre-primary schools, particularly within rural contexts such as Aldai Sub-County.

Implementation of CBE in pre-primary schools within Aldai Sub-County continues to face significant challenges associated with teacher preparedness, instructional resources, and adaptation to new pedagogical practices. Aldai Sub-County, located in Nandi County, is characterized by rural and peri-urban settlements where ECDE centres often operate with limited resources, inadequate infrastructure, and insufficient instructional materials (Owala, 2021). Studies conducted in Nandi County have consistently identified teacher-related challenges as the most significant barriers to effective CBE implementation in pre-primary schools. Owala (2021) found that ECDE teachers in Aldai Sub-County experienced difficulties implementing competency-based approaches due to inadequate training in learner-centered pedagogies, limited understanding of competency-based assessment methods, and insufficient access to teaching and learning resources. The study further revealed that teachers who received ongoing professional development and instructional mentoring demonstrated greater confidence and effectiveness in implementing CBE compared to those who relied solely on pre-service training (Owala, 2021). Momanyi and Rop (2019) similarly observed that teachers in rural schools within Nandi County lacked adequate exposure to competency-based pedagogies, affecting their ability to design and deliver learner-centered instruction that fosters competency acquisition. The researchers noted that teachers' attitudes toward CBC were influenced by their perceptions of the curriculum's complexity, their confidence in their pedagogical skills, and the level of institutional support available (Momanyi & Rop, 2019). Rwigema and Andala (2022) found that many teachers in Aldai Sub-County continued to employ traditional, teacher-centered instructional methods due to limited understanding of competency-based teaching strategies, negative attitudes toward curriculum reforms, and insufficient professional competence in learner-centered pedagogy. Cheptoo and Ramdas (2020) further observed that implementation of

CBC in early childhood education settings was hampered by inadequate preparation of teacher trainers, limited integration of practical learning experiences, and insufficient alignment between pre-service training and curriculum expectations. These findings demonstrate that successful implementation of CBE in pre-primary schools depends significantly on teacher-related factors, including pedagogical skills, attitudes toward competency-based approaches, and professional competence. Despite the growing body of research on CBC implementation in Kenya, limited empirical evidence exists on how teacher-related factors specifically influence implementation of CBE in pre-primary schools within Aldai Sub-County, Nandi County. Most studies have focused on primary and secondary education or have been conducted outside the local ECDE context, limiting the applicability of their findings to the specific conditions and challenges facing pre-primary schools in this region. This study therefore sought to examine how teachers' pedagogical skills, teachers' attitudes toward CBE, and teachers' professional competence influence the implementation of Competency-Based Education in pre-primary schools in Aldai Sub-County, Nandi County, Kenya.

1.3 Statement of the Problem

Competency-Based Education (CBE), operationalized through the Competency-Based Curriculum (CBE) in Kenya, is designed to ensure that learners acquire practical skills, values, and competencies necessary for real-life application. Effective implementation of CBE at the pre-primary level requires teachers who are adequately prepared in terms of training, pedagogical skills, attitudes, and overall professional competence. To support this transition, the Government of Kenya, through the Ministry of Education and agencies such as the Teachers Service Commission (TSC) and Kenya Institute of Curriculum Development (KICD), has rolled out several initiatives, including in-service teacher training programs, workshops, and continuous professional development (CPD) sessions aimed at equipping teachers with the necessary competencies for CBE implementation.

Despite these efforts, evidence from various parts of Kenya indicates that teacher preparedness for CBE implementation remains a concern. Studies conducted in counties such as Nyandarua and Nairobi show that many teachers have either not undergone adequate training or have received training that is largely theoretical, with limited

emphasis on practical pedagogical application (Momanyi & Rop, 2019; Muchiri, 2021). Despite the organization of various capacity-building initiatives such as workshops and seminars at the county and sub-county levels by the County Government of Nandi, a significant proportion of pre-primary teachers have not fully benefited from these programs, as evidenced by persistent challenges in adapting to competency-based pedagogies and assessment methods, with a 2023 study conducted in Nandi County finding that most teachers had not gone back for training to be acquainted with the Competence Based Curriculum, which subsequently created difficulties in implementing the new modes of assessing learners towards the acquisition of competencies and skills (Kimalel, 2023). Consequently, challenges such as limited understanding of competency-based approaches, inadequate learner-centered pedagogical skills, and low confidence in delivering CBE content persist among teachers (Owala, 2021).

While existing studies have examined teacher preparedness and CBE implementation, most have focused on primary and secondary school levels, with limited attention given to pre-primary education. Furthermore, many of these studies have concentrated broadly on curriculum implementation without specifically isolating key teacher-related factors such as in-service training, pedagogical skills, attitudes, and competence within localized contexts. Limited studies have been carried out in Aldai Sub-County to comprehensively examine how these teacher-related factors influence the implementation of CBE in pre-primary schools. This study therefore sought to address this gap by focusing specifically on Teacher-Based Factors Influencing the Implementation of Competency-Based Education in Pre-Primary Schools in Aldai Sub-County, Nandi County.

1.4 Purpose of the Study

The purpose of this study was to examine Teacher-Based Factors Influencing the Implementation of Competency-Based Education in Pre-Primary Schools in Aldai Sub-County, Nandi County.

1.5 Objectives of the Study

The study was guided by the following specific objectives;

1. To examine the influence of teachers' pedagogical skills on the implementation of CBE in pre-primary schools in Aldai Sub-County.
2. To determine the influence of teachers' attitudes toward CBE on its implementation in pre-primary schools in Aldai Sub-County.

3. To evaluate the influence of teachers' professional competence on the implementation of CBE in pre-primary schools in Aldai Sub-County.

1.6 Research Questions

The study sought to answer the following research questions:

1. How do teachers' pedagogical skills influence the implementation of CBE in pre-primary schools in Aldai Sub-County?
2. How do teachers' attitudes toward CBE influence its implementation in pre-primary schools in Aldai Sub-County?
3. How does teachers' professional competence influence the implementation of CBE in pre-primary schools in Aldai Sub-County?

1.7 Significance of the Study

This study is expected to provide insights into the readiness of teachers in public pre-primary schools to adopt and implement Competency-Based Education (CBE). The findings and recommendations of the study would guide the government in making policy adjustments that enhance curriculum implementation. Additionally, the study would highlight gaps and deficiencies that, if addressed, would improve the effective delivery of Competency-Based Education (CBE) in schools.

The results would also inform the Kenya Institute of Curriculum Development (KICD) on potential reforms in pre-primary teacher education programmes to better align with CBE requirements, ensuring that pre-service teachers acquire the necessary knowledge and skills for effective implementation.

At the county level, the findings would assist the Nandi County Government in designing targeted in-service training programmes for pre-primary teachers, focusing on areas requiring further professional development for effective CBE implementation. Similarly, the Teachers Service Commission (TSC) would use the insights generated by the study to develop robust induction programmes that equip teachers with the competencies needed to deliver CBE successfully.

For school managers, the study would provide guidance on the extent to which teachers are prepared to implement CBE and would recommend strategies for improving curriculum adoption in public pre-primary schools. The findings would also help teachers recognize their critical role in CBE implementation and identify areas requiring attention to enhance teaching and learning outcomes.

Furthermore, the study would inform the development of policy guidelines that support professional development for pre-primary teachers, thereby promoting the effective implementation of CBE. Ultimately, the research would contribute to the existing body of knowledge on pre-primary teacher preparedness, highlight existing gaps, and provide a foundation for future studies on Competency-Based Education implementation.

1.8 Scope/Delimitations of the Study

The study focused exclusively on Teacher-Based Factors Influencing the Implementation of Competency-Based Education in Pre-Primary Schools in Aldai Sub-County, Nandi County, with head teachers and pre-primary school teachers in Early Childhood Education centers serving as the primary respondents. This focus was informed by prior research indicating limited use of competency-based approaches in public pre-primary schools within the county.

While numerous factors may have influenced the adoption and implementation of Competency-Based Education (CBE), this study specifically examined how teachers' literacy levels, teaching methodologies, head teachers' assessment practices, and the availability of instructional materials affected the implementation of the curriculum. Teachers played a central role in curriculum delivery, making their readiness essential for understanding the practical application of CBE.

The pre-primary school teachers who participated in the study had received formal training in Early Childhood Education, which enabled them to comprehend the study questions and provide relevant information on the variables under investigation. Additionally, it was assumed that participants responded honestly, ensuring the collection of accurate data and producing precise research findings that could inform effective policies and practical interventions.

1.9 Limitation of the Study

Teaching at the pre-primary school level was demanding due to high teacher-to-learner ratios in public pre-primary schools within the county. Teachers did not always have sufficient time to complete questionnaires during instructional periods, as they were required to follow the established timetable and attend to other administrative responsibilities. Consequently, questionnaires were left with teachers to complete at their convenience, with the researcher collecting them later. However, this approach allowed teachers to overly consider their responses, which potentially influenced the accuracy of

their answers. To mitigate this, the researcher and research assistants administered the questionnaires during break or lunch periods and requested participants to complete and return them within that timeframe.

1.10 Assumption of the Study

The study was based on several assumptions. First, it was assumed that pre-primary school teachers in Aldai Sub-County had, to some extent, been exposed to Competency-Based Education (CBE) through professional training, workshops, curriculum orientation programmes, or practical classroom experience. The study further assumed that the respondents provided honest, accurate, and reliable information regarding their knowledge, pedagogical skills, attitudes, and experiences related to the implementation of CBE.

In addition, it was assumed that teacher-related factors such as pedagogical skills, attitudes toward CBE, and professional competence significantly influenced the effective implementation of Competency-Based Education in pre-primary schools. The study also assumed that the research instruments used adequately and accurately captured the key variables under investigation and generated valid and reliable data for analysis. Finally, it was assumed that the selected respondents were representative of pre-primary school teachers in Aldai Sub-County, thereby making the findings generalizable to similar ECDE contexts within the region.

1.11 Conceptual Framework

A conceptual framework provides a visual or diagrammatic representation of the relationships between the study variables, illustrating how they interact and influence one another.

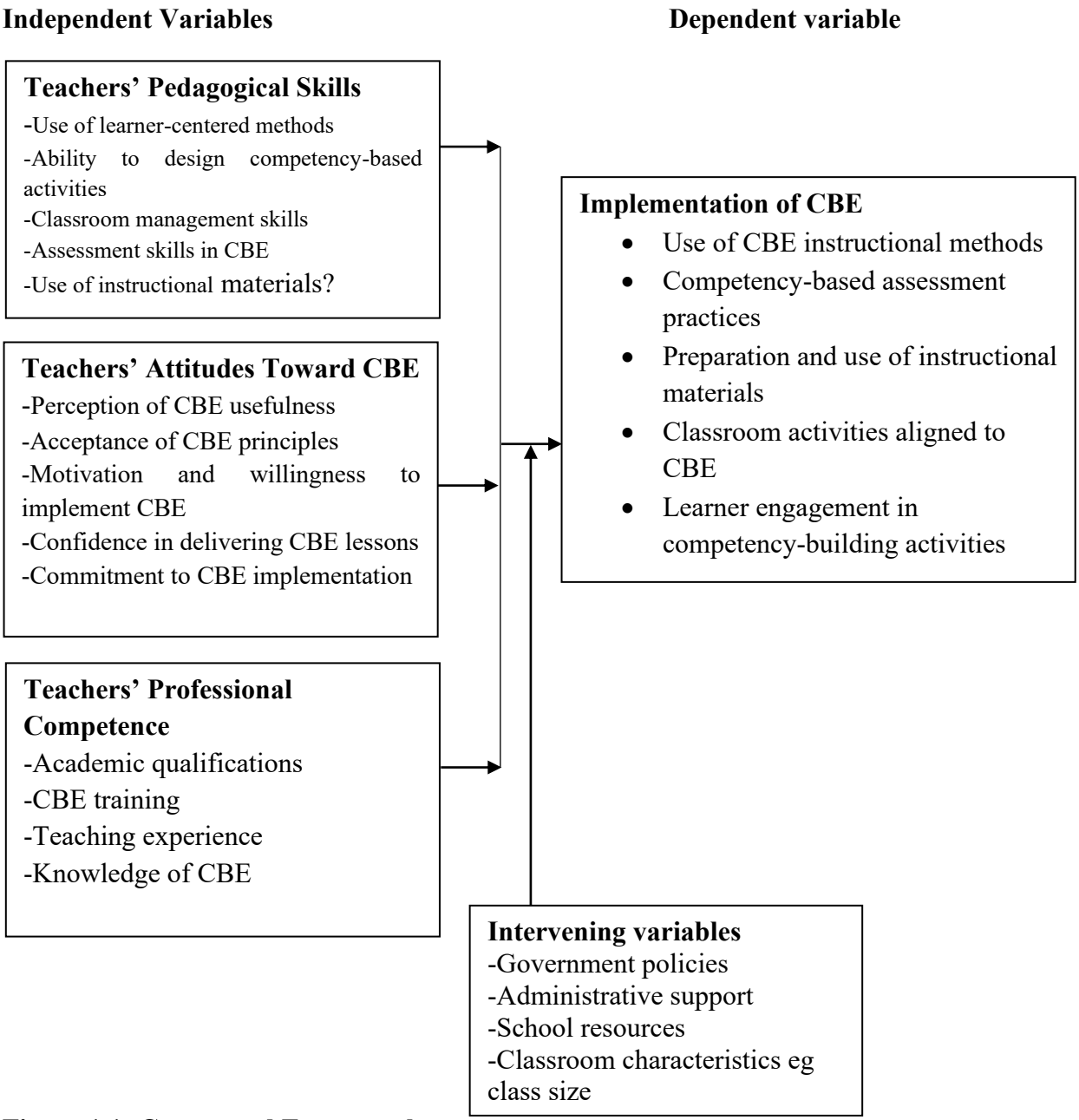


Figure 1.1: Conceptual Framework

Source: (Author, 2026)

The framework depicts how teacher-related factors, such as professional training, pedagogical skills, attitudes toward CBE, and technological competence, affect the effective adoption and execution of CBE. It emphasizes that well-prepared teachers are central to integrating core competencies into classroom instruction, applying appropriate assessment methods, and ensuring learner-centered teaching practices, thereby enhancing overall curriculum implementation.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter reviews empirical studies relevant to the research problem, providing a foundation for identifying existing gaps. The literature review is organized thematically,

based on the study's specific objectives. The chapter concludes with a summary of the reviewed literature and highlights the gaps that informed the current study.

2.2 Theoretical Framework

A theoretical framework is used to frame research and explain social phenomenon. It is a statement or complex argument explaining and/or predicting phenomena (Varpio et al., 2019). Concepts are included in the theoretical framework, together with definitions, references to important academic literature, and contemporary theories that are applicable to a certain study. This demonstrates an understanding of ideas and concepts relevant to the study's topic and the larger fields of knowledge under consideration. The study was informed by Dewey's Social Constructivism theory and Curriculum Implementation Theory.

2.2.1 Dewey's Social Constructivism

Social Constructivism Theory was advanced by John Dewey in 1938 as part of his broader work on progressive education. The theory emerged from Dewey's critique of traditional education systems that emphasized rote memorization and passive learning. Instead, Dewey proposed that learning is an active, social, and experiential process shaped by interaction between the learner and the environment (Dewey, 1938). The theory is grounded in the idea that knowledge is constructed through experience, reflection, and social engagement rather than transmitted directly from teacher to learner.

Dewey postulated that effective learning occurs when learners actively participate in meaningful activities that relate to their real-life experiences. He identified key instincts that drive learning, namely social, constructive, expressive, and artistic instincts, which should be nurtured within the learning environment. According to the theory, education should be learner-centered, allowing learners to explore, interact, and solve real-world problems. Teachers, therefore, act as facilitators who guide learners in constructing their own understanding rather than simply delivering content. This perspective aligns closely with Competency-Based Education (CBE), which emphasizes practical skills, learner engagement, and application of knowledge in real-life contexts.

The strength of Social Constructivism lies in its emphasis on active learning, critical thinking, and the relevance of education to real-life situations. By focusing on learner experiences and interaction, the theory supports the development of competencies such as problem-solving, collaboration, and creativity, which are central to CBE. However,

the theory has been criticized for placing excessive responsibility on teachers to design meaningful learning experiences, which may be challenging in contexts with limited resources or large class sizes. Additionally, some critics argue that the theory may underemphasize the role of structured content and standardized assessment, making it difficult to measure learning outcomes objectively.

In this study, the key aspects of Social Constructivism that will be emphasized include learner-centered pedagogy, experiential learning, teacher facilitation, and the integration of real-life experiences into teaching. These aspects are directly linked to the study variables, particularly teachers' pedagogical skills, attitudes, and professional competence. Teachers who possess strong pedagogical skills are better able to design interactive and engaging learning experiences consistent with constructivist principles. Similarly, positive teacher attitudes toward CBE influence their willingness to adopt learner-centered approaches, while professional competence determines their ability to effectively facilitate competency-based learning.

The application of this theory to the current study is grounded in its relevance to the implementation of Competency-Based Education in pre-primary schools in Aldai Sub-County. The theory explains how teachers' knowledge, skills, and attitudes influence their ability to create learning environments that support active participation and competency development. When teachers are well-trained, competent, and positively disposed toward CBE, they are more likely to implement instructional practices that align with constructivist principles, thereby enhancing effective curriculum implementation. Conversely, a mismatch between teacher capabilities and the demands of CBE may hinder successful implementation. Therefore, Social Constructivism provides a suitable theoretical lens for examining how teacher-related factors influence the implementation of Competency-Based Education in this study.

This study was also grounded on the Curriculum Implementation Theory proposed by Gross (1970), which explains that successful curriculum implementation depends on four key elements: clarity of innovation to implementers, teacher capability, availability of resources, and provision of management support. The theory is highly relevant to the implementation of Competency-Based Education (CBE) because it emphasizes the central role of teachers as implementers of curriculum reforms.

In the context of this study on the implementation of Competency-Based Education in pre-primary schools in Aldai Sub-County, Nandi County, the theory provides a useful lens for understanding teacher-based factors influencing implementation. Gross (1970) argues that curriculum reforms can only be effectively implemented when teachers clearly understand the intended changes in terms of content, competencies, values, pedagogical approaches, and assessment practices. In CBE, this clarity is essential because teachers are expected to shift from traditional content-based teaching to competency-focused and learner-centered approaches.

The theory further emphasizes the capability of implementers, which in this study relates to teacher competence, training, and professional preparedness. Teachers who have been exposed to adequate pre-service and in-service training are more likely to effectively implement CBE because they possess the required pedagogical skills and content knowledge. Brown (2020) supports this view by noting that continuous professional development improves teacher motivation and retention, which in turn enhances curriculum implementation.

The third element, availability of resources, is also critical in the implementation of CBE in pre-primary schools. Gross (1970) highlights that teachers require adequate teaching and learning materials to translate curriculum intentions into classroom practice. In CBE, resources such as manipulatives, instructional aids, and learning materials enable teachers to support experiential and learner-centered instruction. Siller and Ahmad (2024) further emphasize that the use of appropriate learning resources significantly improves learner achievement, reinforcing the importance of resource availability in effective implementation.

Finally, management support plays a crucial role in ensuring successful curriculum implementation. According to Gross (1970), effective leadership provides institutional guidance, supervision, and motivation necessary for teachers to implement curriculum reforms. In school settings, management support includes provision of instructional resources, financial facilitation, supervision of instructional planning, and support in classroom management. Klinck et al. (2023) further note that strong institutional support fosters a positive organizational culture that enhances teacher performance and curriculum delivery.

In relation to this study, the Curriculum Implementation Theory therefore explains that the successful implementation of Competency-Based Education in pre-primary schools in Aldai Sub-County depends on teacher-related factors such as training, competence, availability of teaching resources, and administrative support. Where teachers are adequately trained, well-resourced, and supported by school management, they are more likely to effectively implement CBE, resulting in improved learner competencies, enhanced classroom interaction, and better educational outcomes. Conversely, deficiencies in any of these factors may hinder effective implementation of Competency-Based Education in pre-primary schools.

2.3 The Concept of the Competency-Based Curriculum

The implementation of Competency-Based Education (CBE) has encountered considerable obstacles in various contexts, particularly regarding teachers' capacity to interpret policy into meaningful classroom practice. In South Africa, for instance, the complexity of curriculum-related terminology has been identified as a significant barrier, limiting educators' ability to translate policy intentions into effective instructional strategies (Mulenga & Kabombwe, 2019). This challenge is not unique to South Africa; across Sub-Saharan Africa, studies have consistently documented that inadequate teacher training frameworks, resource constraints, and limited stakeholder coordination have impeded effective CBE implementation (Ottevanger, van den Akker, & Feiter, 2007). In Tanzania, research by Komba and Mwandanji (2015) revealed limited utilization of appropriate competency-based pedagogical approaches and assessments, primarily attributed to a lack of comprehensive teacher training on the new curriculum, as well as inadequate availability of instructional materials and school infrastructure. Similarly, Makunja (2015) emphasized that successful curriculum implementation involves proper planning and the interplay of multiple factors, including adequate teaching and learning resources, teachers' competencies, and the quality of school infrastructure. These regional experiences highlight a broader pattern wherein ambitious curriculum reforms are frequently thwarted by systemic and institutional constraints, with teachers expected to adopt novel instructional strategies without the necessary ongoing support, resources, or training (Jwan, 2010). Consequently, the potential advantages of competency-based education are compromised when there is a misalignment between curriculum design and classroom realities.

The shift toward CBE represents a fundamental reconceptualization of educational purpose, moving beyond rote acquisition of knowledge to emphasize skill development as a combination of knowledge, values, and attitudes necessary to perform various tasks (Tompkins, Laslovich, & Greene, 1996). Within the Kenyan context, the Competency-Based Curriculum (CBC) was introduced in 2017 to replace the 8-4-4 system, driven by the need to equip learners with technological and socio-economic competencies aligned with both local and global job market requirements (Maina & Rosemary, 2019). This transformation was guided by various national frameworks and policy documents, including Kenya Vision 2030, the Constitution of Kenya (2010), the Professor Odhiambo Task Force Report, Sessional Paper No. 2 of 2015, the KICD Needs Assessment Report (2016), and the Harmonized Curriculum of East African States (KICD, 2017). The Basic Education Curriculum Framework (BECF) articulates the vision of developing "an engaged, an empowered and ethical citizen" and identifies seven core competencies: communication and collaboration, critical thinking and problem solving, creativity and imagination, citizenship, digital literacy, learning to learn, and self-efficacy (KICD, 2017). The framework emphasizes that a competency-based approach enables meaningful connections within and between subject areas, with subjects serving as vehicles through which core competencies are developed over time (KICD, 2017).

The success of CBE implementation in Kenya is largely contingent upon teacher-related factors, including their awareness, preparedness, attitudes, and professional competence. Teachers' awareness and understanding of the CBE are critical to effective implementation, encompassing knowledge of curriculum design, the link between national educational goals and learning outcomes, recommended teaching methods, assessment strategies, and integration of ICT in instructional delivery (Waweru, 2018). Effective adoption of the CBE depends significantly on teachers' comprehension of curriculum changes, their skills, and practical knowledge (Daily Nation, June 10, 2019). However, empirical evidence from Kenya reveals that many teachers trained under the traditional 8-4-4 system struggle to adapt to competency-based teaching approaches (Wambua, 2019). A study by Waweru and Ngaruiya (2021) found that while the majority of teachers had participated in sensitization workshops, many lacked practical knowledge of CBE pedagogy. Similarly, research conducted in Kericho County concluded that positive attitudes among teachers, headteachers, and other stakeholders are essential for successful implementation (Ngeno, Chepkorir, & Keter, 2021). The Teachers Service

Commission has emphasized the necessity of ongoing in-service training and recognized shortcomings in professional development (TSC, 2020). Oguta (2025) found that while 67.75% of teachers reported having attended formal CBE training sessions, 52.41% deemed the trainings excessively short and primarily theoretical, and only 27.5% received any form of follow-up training or mentorship, underscoring the need for systematic and ongoing professional development programs. Furthermore, reports indicate that teachers' ability to implement the CBC is influenced by their training and resource availability, with challenges compounded by weak cohesion and shared understanding across the wider education system, including among school leaders, parents, and policymakers (Gikandi et al., 2025). Consequently, effective CBE implementation in Kenya requires a shift from teacher-centered instruction to learner-centered and Inquiry-Based Learning approaches that foster practical skill development (KICD, 2018).

2.4 Empirical Review

This section presented a review of empirical studies that had been done in relation to the study. The section was organized accordingly to the research objectives.

2.4.1 Teachers' Pedagogical Skills and the Implementation of CBE

In Canada, a study on teachers' pedagogy indicated that educators were not fully equipped or prepared with fundamental information and communication technology (ICT) skills necessary for integrating technology into their classrooms, despite having received formal instructional technology training (Dele-Ajayi et al., 2021). The study revealed that most teachers lacked adequate content delivery capabilities, raising concerns given that technological advancement plays a pivotal role in the acquisition of key competencies. Teachers must comprehend the dynamics of technological changes prior to curriculum implementation; however, while Canada represents a developed context where ICT integration is widely expected, the current study is situated in Aldai Sub-County, Nandi County, a rural setting where technological advances have not been extensively adopted or integrated into different facets of educational practice to facilitate proper implementation of the Competency-Based Curriculum.

Across Latin America, a study examined Competency-Based training for university professors in online Education in Ecuador (2024), which highlighted the growing significance of competencies, particularly media-related and ICT skills in virtual

teaching (Calle et al., 2024). The study further suggested that teachers must be able to adapt pedagogically to foster real-world application through problem-solving and critical thinking, offering insight into teacher profiles and development needs in online Competency-Based Education (Calle et al., 2024). While the Latin American study provides valuable insight into teachers' methodology for integrating ICT in learning to solve life problems, it focused on university professors, whereas the current study is concerned with teachers at the pre-primary level. It is therefore recommended to investigate whether pre-primary teachers in Aldai Sub-County can integrate ICT in their instruction as a pedagogical methodology.

In Uganda, Tumuheise, Ssempala, Winamasiko, and Nachuha (2023) investigated factors influencing the implementation of the competency-based curriculum in Kabale District. Guided by Vygotsky's social constructivism theory, the study employed purposive sampling to select 126 participants, including head teachers, teachers, and students. A case study design was used, and data were collected through interviews and focus group discussions. The findings revealed that inquiry-based learning, experiential learning, collaborative learning, and project-based learning were the most effective pedagogical practices for successful CBE implementation. The study recommended that teachers receive training in diverse pedagogical methods and be provided with instructional resources to help students master the curriculum competencies. In contrast, the current study collects data using questionnaires, interviews, and observation guides, and incorporates both qualitative and quantitative analysis, rather than relying solely on qualitative data as in the reviewed study.

In a study conducted in Uasin Gishu County, Mugun, Wanjiru, and Kiprop (2021) identified teaching methods employed in secondary schools and found that teachers did not utilize diverse instructional techniques such as group presentations, group discussions, and role play in the subjects being taught, suggesting that educators were inadequately trained and lacked sufficient understanding of the implementation of different curricula. However, that study was conducted in secondary schools in Uasin Gishu County, whereas the current study is interested in public pre-primary schools in Aldai Sub-County, Nandi County, Kenya. Additionally, teachers should receive adequate training in the Competency-Based Curriculum through professional development to enable them to effectively deliver their mandate in the context of twenty-first-century

skills acquisition, where facilitators must adopt a paradigm shift in conceptualising learners as possessing innate abilities whose role is to nurture the process of educational reforms (Kelly, 2018). Teacher pedagogy should be emphasized to ensure that lesson objectives are achieved and learners can attain the desirable competencies.

Adhiambo, Macharia, and Ngozi (2023) investigated the integration of digital technology in science learning during CBE implementation in Nairobi County, targeting Grades 4 and 5. The sample included 20 head teachers, 324 teachers, and 10 Curriculum Support Officers. The study found that technology use in classrooms was limited, with teachers rarely utilizing tablets or computers. Additionally, many schools lacked the necessary digital infrastructure, including reliable electricity and sufficient digital devices, and most teachers lacked the technical skills required for effective digital learning. The authors recommended improving infrastructure, providing continuous teacher development, reducing class sizes, and minimizing administrative workload to enhance CBE implementation in science. Unlike this urban-focused study, the present research is conducted in a rural setting, addressing a gap regarding CBE implementation in pre-primary schools in Aldai Sub-County.

Similarly, Kengo and Kirimi (2023) examined the impact of instructional materials on CBE implementation in Early Years Education (EYE). Their findings indicated that both digital learning resources and teachers' competencies significantly influenced curriculum implementation. A key challenge identified was the lack of adequate instructional materials, such as digital devices, which hindered effective adoption of the competency-based curriculum.

Abdullahi (2020) conducted a study to examine school-related factors affecting the implementation of the Competency-Based Education (CBE) in preschools within Garissa Sub-County, Kenya. The research adopted a descriptive design and utilized questionnaires and interview schedules for data collection. Results indicated that schools faced a shortage of instructional resources, particularly digital tools, which hindered effective curriculum implementation. The study recommended that the Ministry of Education provide additional instructional materials to public primary schools to support CBE adoption. While the reviewed study employed a descriptive design, the current study utilizes a mixed-methods approach, and it also seeks to investigate the actual level of CBE implementation in schools, a gap not addressed by Abdullahi (2020).

Silas (2020) explored teachers' understanding and skills regarding CBE implementation in Kiambu County, Kenya. The study used an ex post facto cross-sectional design and collected data from 69 teachers and 12 school principals through questionnaires. Data were analyzed using both descriptive and inferential statistics. The findings showed that many teachers lacked sufficient knowledge of the CBE framework, which impeded effective implementation in several schools. Despite some successes with the curriculum, challenges in achieving full implementation were evident. Building on this, the current study focuses on assessing teachers' preparedness and training for implementing CBE, specifically targeting junior schools in Seme Sub-County, Kisumu County, Kenya.

Wamuyu (2020) investigated the effect of headteachers' training on CBE implementation in public primary schools in Kiambu County. A descriptive survey design was adopted, and questionnaires were administered to 76 respondents. Both descriptive and inferential statistics were used for data analysis. The study found that teachers struggled to adapt to competency-based assessment methods as opposed to traditional exams, which negatively affected the effective implementation of CBE. However, the study also concluded that headteacher training practices, such as programmed instruction and role modeling, positively influenced curriculum implementation. The findings highlighted the importance of teacher training in successful CBE adoption. Nevertheless, the study was limited to Kiambu County and only focused on headteachers, leaving out classroom teachers and other stakeholders who play a significant role in implementing CBE. Consequently, the study did not explore teachers' preparedness for CBE implementation, an area that the current research seeks to address, particularly in the context of public pre-primary schools in Aldai Sub-County, Nandi County.

2.4.2 Teachers' Attitude and Implementation of CBE

The influence of teachers' attitudes on curriculum implementation has been extensively documented across diverse educational contexts, with studies consistently demonstrating that educators' perceptions, beliefs, and dispositions toward reform initiatives significantly shape implementation outcomes. In Namibia, Ngihalwa (2018) examined how teachers' attitudes influenced curriculum implementation in primary schools, finding that most teachers were dissatisfied with their limited role in the curriculum process, as they were only involved in implementation rather than development. The study recommended involving teachers in curriculum development, emphasizing that their

understanding of learners' needs and interests could enhance curriculum delivery effectiveness. This finding is particularly instructive for the current study, as it suggests that teachers' negative attitudes may stem from perceived exclusion from decision-making processes, a challenge that may be equally prevalent among pre-primary teachers in Aldai Sub-County who are expected to implement the Competency-Based Curriculum without having been substantively involved in its design. However, Ngihalwa's (2018) study was conducted in Namibia's primary school context, creating a contextual gap, as the current study focuses on pre-primary education in Kenya's rural Aldai Sub-County, where systemic challenges related to resource availability, teacher training, and institutional support may compound attitudinal barriers to curriculum implementation.

In Rwanda, Nsengimana et al. (2022) explored science teachers' perceptions of the Competency-Based Curriculum through semi-structured face-to-face interviews, revealing a spectrum of attitudes ranging from positive views aligned with national education goals to negative perceptions rooted in implementation challenges. Similarly, Akinrinola et al. (2020) reported that teachers generally held favorable attitudes toward competency-based approaches, yet insufficient professional training and support negatively affected the quality of teaching and assessment practices. These findings highlight a critical tension: while teachers may intellectually endorse competency-based reforms, positive attitudes alone are insufficient to ensure effective implementation without corresponding investments in professional development and institutional support. This observation resonates with the Kenyan context, where pre-primary teachers in Aldai Sub-County may express general support for the Competency-Based Curriculum while struggling to translate that support into effective classroom practice due to inadequate training, limited resources, and insufficient professional development opportunities. The convergence of findings across Rwanda and Nigeria underscores the universal importance of addressing systemic barriers alongside attitudinal factors, yet both studies were conducted in contexts that differ from Kenya's decentralized education governance structure, necessitating localized investigation.

In Uganda, Olema et al. (2021) noted that shifting from a traditional knowledge-based system to a competency-based approach requires ongoing professional development to equip teachers with the necessary knowledge, skills, attitudes, and values for both classroom and professional contexts. Atuhura and Nambi (2024) identified challenges in this transition, including limited stakeholder preparedness, negative teacher attitudes,

inadequate resources, and stringent training requirements. The Ugandan evidence aligns with findings from Tanzania, where Mokoro (2020) found that only 34% of teachers had received Competency-Based Curriculum training, with most exhibiting negative perceptions. Msamba (2023) reinforced that addressing negative teacher attitudes through consistent professional development workshops is critical for effective CBE implementation. These East African studies collectively demonstrate that negative teacher attitudes are not isolated phenomena but rather systemic challenges linked to inadequate training, insufficient resources, and limited stakeholder engagement. The consistency of these findings across Uganda, Tanzania, and Rwanda suggests that pre-primary teachers in Aldai Sub-County may similarly experience attitudinal barriers rooted in similar systemic constraints. However, the transferability of findings from these studies to the Kenyan context requires empirical verification, as Kenya's Competency-Based Curriculum implementation follows a unique trajectory shaped by distinct policy frameworks, institutional arrangements, and historical educational reforms.

In Kenya, Ngeno, Chepkorir, and Keter (2021) studied teachers' attitudes toward the Competency-Based Curriculum in Kericho County using a descriptive correlation design guided by social constructivism theory, concluding that positive attitudes among teachers, headteachers, and other stakeholders are essential for successful implementation. Okeyo and Mokua (2023) further emphasized that successful Competency-Based Curriculum adoption depends on teachers' confidence in understanding and delivering curriculum content, while Getecha (2023) reinforced that teachers' attitudes directly influence curriculum execution, with positive attitudes improving implementation outcomes and negative attitudes creating barriers. Waigera, Mweru, and Ngige (2020) explored the relationship between teachers' attitudes and the use of instructional materials in Kenyan pre-primary schools, finding that teachers with positive attitudes were more effective in applying instructional resources compared to colleagues with negative attitudes. The study highlighted that a teacher's mindset plays a crucial role in promoting the use of teaching materials in ECDE programs, and cultivating a positive attitude toward instructional resources during both pre-service and in-service training was identified as essential for encouraging best teaching practices. Similarly, Ondimu (2018) assessed preschool teachers' readiness to implement the Competency-Based Curriculum in private preschools in Dagoretti North Sub-County, Nairobi, finding that 37.6% of teachers viewed CBE positively, 11.1% opposed its

implementation, and 1.1% preferred the 8.4.4 curriculum. While these Kenyan studies provide valuable insights into teachers' attitudes toward CBE, they present several limitations that the current study seeks to address. First, Ondimu's (2018) study focused exclusively on private pre-primary schools, making its findings non-generalizable to public pre-primary institutions where resource constraints, teacher qualifications, and institutional support systems differ substantially. Second, the study primarily employed descriptive statistics, limiting its capacity to establish statistically significant relationships between teachers' attitudes and curriculum implementation outcomes. Third, none of these studies specifically examined pre-primary teachers in Aldai Sub-County, Nandi County, a rural context characterized by unique challenges related to geographic isolation, limited access to professional development, inadequate instructional resources, and constrained institutional support. The current study therefore fills these gaps by employing multiple data collection tools, including questionnaires, interview schedules, observation checklists, and document analysis guides, to enable data triangulation and generate more reliable and comprehensive findings on how teachers' attitudes influence CBE implementation in public pre-primary schools in Aldai Sub-County.

2.4.3 Teachers' Professional Competence and Implementation of CBE

The relationship between teachers' professional competence and effective curriculum implementation has been extensively investigated across international contexts, with research consistently demonstrating that pedagogical content knowledge, instructional skills, and assessment competencies are critical determinants of implementation success. In the North Zone Peninsular of Malaysia, Jamilah and Siti (2020) investigated the connection between teacher competence and 21st-century skills within the Transformation Schools 2025 initiative, using quantitative methods to collect data from 242 secondary school teachers. Their findings revealed a strong positive correlation between teachers' professional competence and their 21st-century skills, with individual attributes, professional expertise, ICT proficiency, and effective school management significantly contributing to the development of these competencies. Similarly, Nasim, Ali, Javed, and Bahoo (2022) conducted a comparative study on teachers' perceived competencies across various school levels in Multan District, Pakistan, involving 1,009 teachers from primary, middle, secondary, and higher secondary levels. Using quantitative survey design with stratified sampling, the study found that gender

significantly influenced teachers' perceived competencies, and differences in teaching experience and designation also affected how competencies were evaluated. While these studies provide robust evidence on the importance of professional competence for effective teaching, they were conducted in Asian contexts with distinct educational governance structures, resource availability, and professional development systems that differ substantially from Kenya's decentralized education system. Furthermore, both studies focused on secondary and primary education levels, leaving a gap in understanding how professional competence influences CBE implementation in pre-primary settings, particularly in rural contexts such as Aldai Sub-County.

In Zambia, Mulenga and Kabombwe (2019) examined teachers' competencies and found that 67% of History teachers lacked sufficient understanding of competency-based or outcome-based curricula, highlighting alarmingly low preparedness levels. The study recommended that the Ministry of General Education strengthen in-service training programs and implement continuous professional development initiatives to enhance teachers' capacity to deliver the curriculum effectively. This finding resonates with the Kenyan context, where Isaboke, Mweru, and Wambiri (2021) emphasized that continuous professional development is essential for effective implementation of the Competency-Based Curriculum, noting that trainers often have limited understanding of the curriculum, which negatively affects teaching practices. The authors recommended regular in-service training to equip teachers with necessary skills and knowledge. In Indonesia, Asiyah, Wiyono, Hidayah, and Supriyanto (2021) explored how professional development influences teaching quality, sampling 100 teachers and analyzing data using Structural Equation Modelling, revealing a significant positive relationship between professional development and teaching quality. Similarly, Yangambi (2021) examined the relationship between teachers' professional development and students' academic achievement in the Democratic Republic of Congo, finding that well-trained teachers significantly contributed to better student performance, while Wagikondi (2019) reported a strong link between professional development and learners' academic outcomes, highlighting that teachers engaged in activities such as team teaching, lesson observation, and job sharing to enhance their skills. These studies collectively underscore the centrality of professional development to teacher competence and curriculum implementation effectiveness. However, they predominantly focus on general

pedagogical competence rather than specifically addressing the competencies required for implementing Competency-Based Education in early childhood settings.

In Kenya, Waweru (2018) investigated the implementation of the Competency-Based Curriculum in lower primary schools and found that 98.8% of teachers were not adequately prepared to deliver the curriculum, raising serious concerns about teachers' readiness and effectiveness in implementing CBE. Koskei and Chepchumba (2020) examined lower primary schools in Nakuru County, Kenya, and established that teachers' competencies significantly influenced the implementation of CBE, with pedagogical skills playing a critical role in the successful delivery of the curriculum. The study emphasized the need for comprehensive and ongoing training for teachers, including initial instruction, refresher courses, and continuous professional development to ensure effective curriculum implementation. Similarly, Momanyi and Rop (2019) explored the understanding and preparedness of lower-grade teachers to adapt their teaching and assessment practices to align with CBE requirements, finding that many teachers lacked sufficient readiness to implement the curriculum effectively, with limited comprehension of CBE affecting their instructional delivery and evaluation practices. The authors recommended that the Kenya Institute of Curriculum Development (KICD) and the Ministry of Education organize targeted training programs to strengthen teachers' pedagogical knowledge, assessment skills, and instructional preparation. While these studies provide valuable insights into teacher competence challenges in Kenya's CBE implementation, they exhibit significant limitations that the current study seeks to address. First, all three studies focused on lower primary school teachers, leaving a substantial gap in understanding how professional competence influences CBE implementation in pre-primary education, which forms the foundational stage of curriculum implementation and presents unique pedagogical demands distinct from primary education. Second, these studies were conducted in Nakuru County and unspecified locations within Kenya, not in Aldai Sub-County, Nandi County, a rural context where limited access to professional development, inadequate instructional resources, and constrained institutional support may exacerbate competence-related challenges. Third, none of these studies employed multiple data collection methods to triangulate findings, relying instead on single instruments that may not capture the full complexity of how professional competence manifests in classroom practice. The current study addresses these gaps by focusing specifically on pre-primary teachers in Aldai

Sub-County, employing multiple data collection tools including questionnaires, interview schedules, observation checklists, and document analysis guides to enable comprehensive assessment of how teachers' professional competence influences CBE implementation in the foundational level of Kenya's education system.

2.5 Summary of Literature Review and Identified Gaps

This chapter examined and synthesized existing scholarly literature relevant to the objectives of the present study. Broadly, the reviewed literature demonstrates that Competency-Based Education (CBE) has attracted significant global interest and institutional backing. Nevertheless, the review revealed a notable shortage of empirical studies conducted within the Kenyan context, particularly those focusing on the implementation of CBE in schools. This gap underscores the need for further context-specific research, as empirical inquiry plays a critical role in shaping evidence-based policy formulation and informing educational reforms.

With regard to teacher training for CBE implementation, several studies have investigated the extent to which educators are adequately prepared to deliver the curriculum. Findings from these studies consistently indicate that many teachers lack sufficient knowledge and practical skills required to implement CBE effectively. However, most of these studies were conducted in public primary schools and largely targeted lower primary teachers. As a result, limited information exists on the readiness of pre-primary school teachers to implement CBE in public pre-primary institutions, highlighting a critical knowledge gap.

Furthermore, the majority of reviewed studies relied heavily on questionnaires and interview schedules as the primary data collection tools. While these methods are valuable, they predominantly generate self-reported data, which may be subject to respondent bias. To address this limitation, the current study incorporated additional data collection methods, including observation checklists and document analysis guides. These approaches enabled triangulation and provided an opportunity to validate self-reported information with direct evidence from classroom practice and institutional records.

In relation to teachers' perceptions of CBE, the review established that limited attention has been given to examining how pre-primary school teachers in Kenya perceive the curriculum. Most existing studies have narrowly defined teacher preparedness in terms

of pedagogical knowledge and instructional skills, often overlooking teachers' attitudes and beliefs. To bridge this gap, the present study explored the relationship between pre-primary school teachers' attitudes toward CBE and their capacity to implement the curriculum effectively in public pre-primary schools.

Regarding technological competencies, the literature review revealed that most prior studies focused on the integration of Information and Communication Technology (ICT) within the former 8-4-4 education system. In contrast, the competency-based curriculum emphasizes learner-centered pedagogies, alternative assessment approaches, and the development of digital literacy as a core competency. Consequently, there is a need to assess the extent to which teachers are equipped to integrate ICT into teaching and learning under the CBE framework, particularly at the pre-primary level.

Finally, although numerous studies have examined challenges associated with the implementation of CBE in public schools, the majority have concentrated on lower primary grades. The challenges encountered in lower primary settings may differ significantly from those experienced in pre-primary schools. Notably, teachers in public pre-primary schools are employed by county governments, whereas lower primary teachers fall under the Teachers Service Commission (TSC). These differences in employment structures and working conditions may influence curriculum implementation experiences. Therefore, it was essential for the current study to specifically investigate the challenges faced by pre-primary school teachers in implementing CBE within public pre-primary schools.

CHAPTER THREE
RESEARCH DESIGN AND METHODOLOGY

3.1 Introduction

Research methodology encompasses the systematic procedures, techniques, and strategies that are employed in the collection, analysis, and interpretation of data in scientific inquiry. This chapter outlines the methodological framework adopted for this

study on the influence of teachers' pedagogical skills, teachers' attitudes toward Competency-Based Education (CBE), and teachers' professional competence on the implementation of CBE in pre-primary schools in Aldai Sub-County, Nandi County, Kenya. Specifically, the chapter describes the research design, research site, target population, and the approaches used in determining population coverage. In addition, the chapter explains the data collection instruments, pilot testing procedures, and the measures undertaken to ensure the validity and reliability of the research tools. The chapter further details the data analysis techniques applied and concludes by outlining the legal and ethical considerations that guided the conduct of the study.

3.2 Research Design

A research design refers to a structured plan that integrates the methods and procedures used to address a research problem (Dubey & Kothari, 2022). It outlines the study objectives and provides a clear framework for data collection, analysis, and interpretation in a systematic manner. This study adopted a descriptive survey research design, which was appropriate because it allowed for the collection of data from a relatively large population using standardized instruments such as questionnaires. The descriptive survey design was particularly suitable for this study since it focused on gathering teachers' views, experiences, and perceptions regarding pedagogical skills, attitudes, and professional competence in the implementation of Competency-Based Education (CBE). According to Muhammad (2022), survey designs are efficient and cost-effective when collecting data from dispersed populations.

Descriptive survey research focuses on observing, describing, and analyzing phenomena as they naturally occur without manipulating variables or establishing causal relationships. The main aim is to provide an accurate profile of characteristics, behaviors, and conditions within a population while identifying patterns and relationships among variables (Sirisilla & Sirisilla, 2023). In this study, the design enabled the researcher to examine how teacher-related factors were associated with the implementation of CBE in pre-primary schools. Furthermore, the descriptive survey design supports empirical investigation by allowing the researcher to capture real-life experiences of ECDE teachers within their natural working environments. As noted by Erik and Marko (2019), this approach is effective in studying human behavior in natural settings and can be conducted within a relatively short time and at a manageable cost. Therefore, the design

was suitable for generating reliable and generalizable findings regarding teacher-related factors influencing CBE implementation in Aldai Sub-County.

3.3 Research Site

The study was conducted in Aldai Sub-County, Nandi County, Kenya. Aldai Sub-County is an administrative sub-county within Nandi County, situated in the former Rift Valley Province of Kenya. The sub-county is predominantly rural, with a significant proportion of the population engaged in agricultural activities, particularly subsistence farming and small-scale trade. There are a number of public primary schools within which many Early Childhood Development Education (ECDE) centres are established, and these are officially recognized as public ECDE centres. Given the high demand for basic education, to which pre-school education is a prerequisite, many parents enroll their children in these pre-schools. Comparing the population of Aldai Sub-County and the rate at which new ECDE centres are being established or existing ones expanded, it is apparent that the available ECDE facilities are insufficient. This might have currently presented a learning environment that is not conducive, thereby posing a threat to the teaching-learning process in these centres.

This is the situation that occasioned the researcher to conduct a study to ascertain how teacher-related factors influence the implementation of Competency-Based Education (CBE) in the study area. The researcher chose Aldai Sub-County as a representative of other sub-counties because it is accessible, has a sufficient sample required for the study, and presents unique challenges related to rural educational contexts. Previous studies have documented challenges related to CBE implementation in Nandi County, particularly regarding teacher preparedness, instructional resources, and adaptation to new pedagogical practices (Owala, 2021; Momanyi & Rop, 2019). Furthermore, despite initiatives such as workshops and seminars organized at the county and sub-county levels, a significant proportion of pre-primary teachers have not fully benefited from these programs, as evidenced by persistent challenges in adapting to competency-based pedagogies and assessment methods (Kimalel, 2023). In view of the above, this study therefore investigated whether challenges related to teachers' pedagogical skills, attitudes toward CBE, and professional competence could as well be a concern in public ECDE centres in Aldai Sub-County, Kenya, since it is a rural area and because ECDE centres rely on parental and community support, which can affect the provision of quality education.

3.4 Target Population

The study population refers to the complete group of individuals or units that possess characteristics relevant to the research objectives. Hennink, Hutter, and Bailey (2020) describe the target population as a collection of individuals, objects, or elements from which data are obtained for analysis. Similarly, Hassan (2018) defines a research population as a clearly identified group whose members share common attributes. Jacobsen (2020) further explains that a population represents the total set of cases from which inferences are drawn in a study, while Dawson (2019) notes that the target population comprises all individuals to whom the research findings are intended to be generalized.

In this study, the target population included 52 head teachers and 106 pre-primary school teachers drawn from all 52 public pre-primary schools in Aldai Sub-County. The selection of both head teachers and pre-primary teachers was deliberate, as both groups play critical roles in the implementation of the Competency-Based Curriculum. Head teachers provide institutional leadership, management support, and oversight of curriculum delivery, while pre-primary teachers are the primary implementers of the curriculum at the classroom level. Table 3.1 presents a summary of the target population of public pre-primary schools within the sub-county.

Table 3.1: Distribution of Target Population for Head Teachers and Pre-Primary School Teachers

School Category	Number of Pre-Primary Schools	Number of Head Teachers	Number of Pre-Primary Teachers	Total
Public	52	52	106	158

Source: Aldai Sub-County Education Office (2025)

3.5 Study Sample

Huang (2021) describes sampling as the procedure through which a smaller, representative portion of a population is selected for analysis, with the intention of drawing conclusions that apply to the entire population. However, sampling was not applied in this study. Instead, the research adopted a census design, whereby data were collected from all members of the target population, eliminating the need for sampling techniques.

3.5.1 Sample Size

A census approach was considered appropriate when the population size is relatively small. As a general guideline, populations numbering fewer than 200 units are best studied through a census to enhance accuracy and representativeness. Zakaria (2020) defines a census as a comprehensive enumeration of every element within a defined population. Guided by this principle, the study included all 52 public pre-primary schools in the study area, encompassing 106 pre-primary teachers and 52 head teachers as units of analysis. Given the manageable size of the population and the desire to obtain complete and highly representative data, the census method was deemed most suitable for this study. This approach minimized sampling bias and enhanced the reliability of the findings by ensuring that all relevant perspectives were captured.

3.5.2 Sampling Procedures

Since the study adopted a census design, all 52 public pre-primary schools in Aldai Sub-County were included in the study. Consequently, all 106 pre-primary teachers and 52 head teachers from these schools formed the study sample. The decision to include all schools and respondents was informed by the relatively small population size and the need for comprehensive data collection. This approach ensured that no school or respondent was excluded, thereby enhancing the representativeness and generalizability of the study findings.

3.6 Data Collection

Saunders, Lewis and Thornhill (2019) define data collection as a systematic procedure of obtaining information relevant to addressing research questions and objectives through a variety of approaches, including interviews, observations, focus group discussions, case studies, and narrative-based investigations. The selection of a particular method is often influenced by factors such as available time, financial resources, and logistical considerations. Among the most frequently applied data collection techniques are surveys, interviews, and direct observation, all of which enable researchers to gather reliable and relevant evidence for analysis.

3.6.1 Data Collection Instruments

The study employed three data collection instruments, namely questionnaires, interview schedules, and a document analysis guide. These tools were designed by the researcher,

with the development of items being informed by the study objectives and the specific variables under investigation.

3.6.1.1 Questionnaires for Teachers

Questionnaires were used to gather data from pre-primary school teachers. This instrument was selected for several reasons. First, it enabled the researcher to obtain extensive information from all the 106 pre-primary school teachers within a relatively short period. Second, the target respondents possessed adequate literacy skills, making them capable of independently completing the questionnaires. Third, questionnaires allowed the researcher to address a wide range of issues related to the study variables in a systematic manner. Finally, this method was cost-effective and efficient, as it facilitated the collection of large volumes of data within a limited timeframe. As noted by Orodho (2017), questionnaires are versatile tools that can capture detailed information across multiple dimensions of a study, making them suitable for examining diverse research variables.

3.6.1.2 Interview Schedule for Head Teachers

Semi-structured interview schedules were utilized to collect qualitative data from head teachers. The insights obtained through these interviews were critical in providing an in-depth understanding of how pre-primary school teacher-related factors influenced the implementation of the Competency-Based Education (CBE) curriculum in public pre-primary schools. Edwards and Holland (2016) emphasized that interviews are effective in generating rich and detailed data because they allow researchers to probe deeper into emerging issues during the discussion. Consequently, interview schedules were appropriate for this study as they permitted follow-up questions and clarification, thereby enhancing the relevance and depth of the information collected. The interview guide comprised questions addressing key study variables, including the level of training received by pre-primary school teachers in CBE, their perceptions of the curriculum, their competence in preparing lesson plans, their ability to integrate core competencies, and their use of assessment rubrics. Data obtained from the interviews provided qualitative insights that complemented and enriched the self-reported information gathered through questionnaires.

3.6.1.3 Document Analysis Guide

A document analysis guide was used to examine five key instructional documents, namely schemes of work, lesson plans, assessment rubrics, progress records, and records of work. These documents were systematically reviewed and interpreted by the researcher to establish the extent to which pre-primary school teachers implemented the Competency-Based Education (CBE) curriculum. The document review covered records prepared and used over a one academic year period, specifically from January 2025 to December 2025. This duration was considered appropriate as it provided comprehensive and up-to-date evidence of instructional planning, delivery, and assessment practices across different school terms. Reviewing documents over this period enabled the researcher to capture consistency, progression, and alignment with CBE requirements throughout the academic cycle. According to Leary (2014), document analysis offers valuable background information and provides broad data coverage, thereby helping to contextualize and strengthen research findings. In this study, it complemented data collected through questionnaires and interviews by providing objective evidence of actual classroom practices.

3.6.1.4 Lesson Observation

Lesson observation was conducted to directly assess teachers' pedagogical skills and instructional practices in the classroom. The researcher observed activities in the PP1 classroom, while two research assistants simultaneously observed sessions in the PP2 classroom. This ensured comprehensive coverage of classroom practices across both levels. The observation focused on teachers' ability to apply learner-centered approaches, integrate core competencies, use instructional resources, and facilitate active learning. Observation data provided firsthand evidence of teachers' pedagogical skills and their implementation of CBE in actual classroom settings.

3.6.2 Pilot Testing of Research Instruments

A pilot study was conducted in two schools within the neighboring sub-county, Chesumei, with 11 teachers which is 10% of the target population of teachers. county that were not included in the final sample. The purpose of the pilot exercise was to identify ambiguities, unclear items, or questions with distorted meanings, which were then revised before administering the instruments in the main study. Since the

questionnaire for pre-primary school teachers was the primary data collection tool, some sections were refined based on discussions with respondents during the pilot phase. The instruments were re-administered to the same respondents after a two-week interval to assess consistency.

The pilot study also assisted the researcher in identifying potential challenges that could arise during the actual data collection process. Additionally, it helped determine whether the research instruments adequately captured all the study variables. Where gaps were identified, additional items were developed to ensure comprehensive coverage. The pilot exercise further aided in detecting vague or misleading questions, which were rephrased to improve clarity and relevance. Moreover, the pilot study helped establish whether the proposed data collection and analysis methods were appropriate for the study. As emphasized by Mugenda and Mugenda (2013), piloting is a critical stage in research as it enables the researcher to assess the reliability and validity of the instruments and to identify difficulties respondents may encounter when providing information. Feedback obtained from the pilot study was therefore used to refine and improve the instruments for the main study.

3.6.3 Instrument Reliability

Reliability refers to the extent to which a research instrument consistently produces stable and dependable results when applied repeatedly under similar conditions (Kothari, 2018). It reflects the capacity of a measurement tool to yield the same outcomes over time, thereby demonstrating its consistency (Creswell, 2018). In this study, reliability was assessed through the test–retest approach to determine the stability of the instruments. To evaluate internal consistency, the study employed Cronbach's alpha coefficient. In social science research, reliability coefficients range between 0 and 1, with a commonly accepted minimum threshold of 0.70 indicating acceptable reliability. Values below 0.40 suggest that the instrument is unreliable, scores between 0.50 and 0.70 reflect moderate acceptability, while coefficients from 0.80 to 1.00 signify a high level of reliability (Maroufizadeh et al., 2020).

To enhance the quality of the data collection tools, a pilot study was conducted using fifteen respondents selected through random sampling. These participants completed the questionnaire, after which the same instrument was administered to them again after a short interval. The results from the two administrations were compared using Pearson's

correlation coefficient, with consistency in responses indicating instrument stability. Furthermore, Cronbach's alpha was computed to assess internal consistency, and a coefficient of 0.70 or higher was used as the benchmark for determining the reliability of the research instrument.

3.6.4 Instrument Validity

Validity refers to the extent to which conclusions drawn from research findings are logically sound, accurate, and truly reflect what the study intends to measure (Saunders et al., 2018). It relates to the degree of precision and significance of interpretations derived from research outcomes (Mochon & Schwartz, 2020). One of the most effective ways of strengthening the validity of research instruments is through expert evaluation, which helps confirm that the tools adequately capture the intended constructs (Demirpence & Putnam, 2020).

In this study, validity was established for the questionnaires and interview guides. An instrument was considered to possess strong content validity when its items were appropriately structured and proportionately represented the concepts under investigation. This process involved seeking assessments from knowledgeable experts, particularly academic supervisors, who reviewed the instruments to determine whether they effectively measured the targeted variables. Experts were requested to provide feedback on whether each item aligned with the constructs the study sought to examine. Several forms of validity are recognized in empirical research, including face or content validity, construct-related validity, and criterion-based validity (Arora, 2017). For this study, emphasis was placed on content validity to ensure that the data collected were accurate and relevant. Content validity entailed a careful examination of the questionnaire items to confirm that they sufficiently addressed the research problem, variables, and objectives. To achieve this, the supervisor's professional judgment was relied upon to evaluate the adequacy, clarity, and relevance of the instrument items. Any recommendations made during this review process were promptly incorporated into the final version of the questionnaire to enhance its effectiveness.

3.6.5 Data Collection Procedures

Prior to data collection, the researcher obtained all the necessary research approvals and permits. This included securing an introductory letter from Africa Nazarene University, followed by obtaining a research permit from the National Commission for Science,

Technology and Innovation (NACOSTI). In addition, clearance was sought from the Ethical Review Board (ERB) to ensure that the study adhered to ethical standards involving human participants. Permission was also requested from the Nandi County Director of Early Childhood Development Education (ECDE) and the Sub-County Education Office. Finally, consent was obtained from the head teachers of the selected public pre-primary schools before accessing the institutions.

After obtaining the necessary approvals, the researcher contacted the respective head teachers through official letters and follow-up phone calls to inform them about the study and agree on suitable dates and times for data collection. This prior communication ensured that participants were aware of the researcher's visit and could plan accordingly. On the agreed and predetermined dates, the researcher, assisted by two trained research assistants, visited all 52 public pre-primary schools within Aldai Sub-County. Upon arrival at each school, the researcher first reported to the head teacher, presented the authorization documents, and reaffirmed permission to conduct the study. The head teacher then introduced the research team to the ECDE teachers and facilitated access to the classrooms. The researcher briefly explained the purpose, objectives, and significance of the study to the participants. Teachers were then issued with informed consent forms and given adequate time to read and voluntarily agree to participate by signing the forms. Participants were also assured of confidentiality, anonymity, and their right to withdraw from the study at any stage without any consequences.

Once consent had been obtained, data collection commenced. The researcher observed activities in the PP1 classroom, while the two research assistants simultaneously observed sessions in the PP2 classroom. This ensured comprehensive coverage of classroom practices across both levels. Following classroom observations, the research team conducted document analysis by reviewing key instructional and administrative records, including schemes of work, lesson plans, assessment rubrics, learner progress records, and records of work. Information from these documents was systematically recorded using a document analysis guide. Thereafter, structured questionnaires were administered to the ECDE teachers. Participants were requested to complete the questionnaires during their break time to minimize disruption of teaching activities. The completed questionnaires were collected immediately after the break to ensure a high response rate. Finally, interviews were conducted with the head teachers using a structured interview schedule. With participants' consent, the interviews were audio-

recorded to enhance accuracy and reduce bias during data capture. Additional notes were also taken to supplement the recordings. This procedure was repeated across all 52 public pre-primary schools. The entire data collection process took approximately two weeks.

3.7 Data Analysis

Data analysis involves a systematic procedure through which collected data are examined, refined, reorganized, and interpreted in order to extract meaningful insights, draw valid conclusions, and inform decision-making processes (Imanuel, 2018). Upon completion of data collection, the researcher, assisted by trained research assistants, reviewed all research instruments to confirm that every section had been properly completed. Quantitative responses obtained from the questionnaires were then coded and entered into the Statistical Package for Social Sciences (SPSS) version 29 for analysis. Prior to conducting statistical tests, the accuracy of data entry was verified by checking for missing values and examining the minimum and maximum scores for each variable. This verification process ensured that all entries fell within the predefined measurement scales and that no invalid values were included. Descriptive statistical techniques, specifically frequencies and percentages, were used to summarize and present the quantitative data.

The second phase of data analysis focused on qualitative data. Qualitative information obtained through interviews was analyzed using a thematic approach. The researcher began by familiarizing themselves with the data through repeated review of interview transcripts and audio recordings. Transcription was undertaken with the support of research assistants by carefully listening to the recordings and documenting the responses. Initial codes were then developed to represent key ideas emerging from the data. These codes were systematically organized and grouped to generate themes aligned with the study objectives. The identified themes were reviewed to ensure internal coherence and clear distinction across themes. Finally, the themes were clearly described and integrated with the quantitative findings to enrich interpretation, with selected participant statements included to authentically represent respondents' perspectives.

In this study, methodological triangulation was achieved through a convergent parallel approach, in which quantitative and qualitative data were collected from the same

respondents, analyzed independently using techniques appropriate to each data type, and subsequently merged during interpretation to provide a more complete understanding of the phenomenon under investigation (Creswell & Plano Clark, 2017).

Triangulation in this study was operationalized in three stages. First, quantitative responses from the questionnaires were analyzed using descriptive statistics (frequencies and percentages) in SPSS version 29, generating numerical patterns that described the distribution of respondents' views on each study variable. Second, qualitative data obtained through interviews were independently analyzed using thematic analysis, generating themes that captured respondents' lived experiences and interpretations in greater depth. Third, rather than treating these two data strands as separate, unrelated outputs, the researcher compared the quantitative patterns against the qualitative themes to establish the extent to which they converged, complemented, or diverged. Where the numerical trends and the thematic findings pointed in the same direction, this convergence was treated as corroborating evidence that strengthened confidence in the study's conclusions. Where the qualitative themes offered additional nuance not captured by the closed-ended quantitative items, this was used to enrich and contextualize the statistical findings rather than being treated as contradictory.

Finally, selected verbatim statements from interview participants were incorporated alongside the quantitative results in the presentation of findings. This integration served two triangulation functions: it allowed the lived experiences of respondents to validate and illustrate the statistical trends emerging from the questionnaire data, and it allowed the researcher to demonstrate, transparently, the basis on which the qualitative themes were derived. Through this process, the study achieved both data triangulation, by combining numeric and narrative evidence on the same constructs, and methodological triangulation, by combining survey and interview methods, consistent with Denzin's (1978) original typology. This dual approach enhanced the validity, credibility, and overall trustworthiness of the research findings.

3.7.1 Underlying Assumptions of the Multiple Linear Regression Model

To examine the influence of the three independent variables (teachers' pedagogical skills, teachers' attitudes toward CBE, and teachers' professional competence) on the dependent variable (implementation of CBE in pre-primary schools), multiple linear regression analysis was conducted. Several key assumptions underlying the multiple linear

regression model were assessed to ensure the validity and reliability of the regression results. First, the assumption of linearity was examined by inspecting scatterplots of the standardized residuals against the standardized predicted values to confirm that the relationship between the independent variables and the dependent variable was linear. Second, the assumption of homoscedasticity, which requires that the variance of the residuals is constant across all levels of the independent variables, was assessed using the Breusch-Pagan test. Third, the assumption of normality of residuals was evaluated using the Kolmogorov-Smirnov test and through visual inspection of normal probability plots (P-P plots). Fourth, the assumption of independence of errors was assessed using the Durbin-Watson statistic, with values between 1.5 and 2.5 indicating acceptable independence. Fifth, the assumption of multicollinearity was examined by computing Variance Inflation Factors (VIF) and tolerance values, with VIF values above 10 or tolerance values below 0.1 indicating problematic multicollinearity. Finally, the assumption of no influential outliers was assessed using Cook's Distance, with values greater than 1 indicating potentially influential cases that warranted further investigation.

3.8 Legal and Ethical Considerations

Research ethics refers to the principles and safeguards that guide the conduct of a study to ensure respect for participants' rights, privacy, and confidentiality (Kothari, 2018). Prior to data collection, the researcher obtained ethical clearance from the Graduate School Board of Africa Nazarene University. Upon approval, authorization to conduct the study was sought from the National Commission for Science, Technology and Innovation (NACOSTI). After securing approval from both Africa Nazarene University and NACOSTI, permission was requested from the Nandi County Director of Education to allow access to public pre-primary schools within the county. As emphasized by Creswell (2014), researchers must obtain consent from relevant authorities before engaging respondents within the study area. All selected participants were adequately informed about the purpose of the study, the expected duration, and the nature of their involvement. Participants were also given an opportunity to ask questions or express concerns, and the researcher responded openly and truthfully to ensure clarity and understanding.

Participants' autonomy was upheld by ensuring voluntary participation in the study. Informed consent forms outlining key details of the research were provided to respondents, who were allowed sufficient time to review the information before

indicating their willingness to participate by signing the consent forms. It was also clearly communicated that participants could withdraw from the study at any stage without any form of penalty. To protect participants' identities, anonymity was strictly maintained. Respondents were not required to provide their names on the research instruments, and pseudonyms were used where necessary. This approach was intended to encourage honest and uninhibited responses without fear of negative repercussions. Additionally, confidentiality was upheld by assuring participants that all information collected would be used solely for academic purposes related to this study. Completed research instruments and collected data were securely stored and accessed only by the researcher.

CHAPTER FOUR

DATA ANALYSIS AND FINDINGS

4.1 Introduction

This chapter presents the analysis of data collected from pre-primary school teachers in Aldai Sub-County, Nandi County. Quantitative data were collected through questionnaires administered to pre-primary teachers, while qualitative data were obtained through interview schedules administered to school heads. The findings are organized

around the three study objectives and presented through descriptive statistics, frequency distributions, and thematic analysis.

4.2 Response Return Rate

The study targeted 106 pre-primary teachers in Aldai Sub-County, Nandi County. As such, 106 questionnaires were issued to the respondents. A total of 99 questionnaires were duly filled and returned. This translates to 93.4% as shown in Table 4.1. This response rate is considered very good to enable the determination of the phenomenon that exists as it is in line with Mugenda and Mugenda (2008) assertion. They state that a response rate of above 70% is recommended for the generalization of the study findings. This is also in line with Cooper and Schindler (2006) arguing that research whose response rate is above 70% is adequate for a study of a social science nature.

Additionally, out of the 52 school heads targeted for interviews, 46 were willing to participate, representing a response rate of 88.5%. The high participation rate among school heads provided rich qualitative insights that complement and triangulate the quantitative findings from teachers. Both response rates are summarized in Table 4.1.

Table 4.1: Response Return Rate

Response	Teachers Frequency	Teachers Percentage	School Heads Frequency	School Heads Percentage
Responded	99	93.4	46	88.5
Did not respond	7	6.6	6	11.5
Total	**106**	**100.0**	**52**	**100.0**

4.3 Demographic Characteristics of the Respondents

The study sought to determine the demographic information of the teacher respondents based on gender, age, highest academic qualification, professional qualifications, teaching experience, and employment status.

4.3.1 Gender of the Respondents

The gender of the respondents was first sought since the findings would assist the study to categorize respondents based on gender. The findings are shown in Table 4.2.

Table 4.2: Gender of the Respondents

Gender	Frequency	Percentage (%_
Male	20	20.2
Female	79	79.8
Total	**99**	**100.0**

The findings in Table 4.2 show that the majority of the respondents 79 (79.8%) were female while the minority 20 (20.2%) were male. This implies that the majority of pre-primary teachers in Aldai Sub-County are female, reflecting the national and global trend where early childhood education is predominantly a female-dominated profession. This finding aligns with KICD (2017) report on competency-based curriculum implementation, which noted that the feminization of the ECDE teaching force has implications for how CBE pedagogical approaches are adopted and sustained in classrooms. According to Dewey's Social Constructivism Theory (1938), the social and experiential nature of learning requires teachers who can create nurturing, interactive environments. Female teachers, who dominate the ECDE profession, often bring relational and nurturing qualities that align well with the learner-centered, activity-based approaches central to CBE.

4.3.2 Distribution of Respondents by Age

The age of the respondents was sought since its findings would assist the study to categorize respondents based on age. The study findings are presented in Table 4.3.

Table 4.3: Distribution of Respondents by Age

Age Bracket	Frequency	Percentage (%)
20-29 years	1	1.0
30-39 years	29	29.3
40-49 years	52	52.5
50 years and above	17	17.2

Total	**99**	**100.0**

Table 4.3 shows that 1 (1.0%) of the respondents were aged 20-29 years, 29 (29.3%) were aged 30-39 years, 52 (52.5%) were aged 40-49 years, and 16 (17.2%) were aged 50 years and above. The majority of respondents (68.7%) were aged 40 years and above, suggesting a relatively mature and experienced teaching force. While maturity generally supports professional confidence and stability, Atuhura and Nambi (2024) observed that transitioning from a traditional knowledge-based system to a competency-based approach requires ongoing professional development, and that experienced teachers who are deeply invested in established routines may initially resist such changes. According to Omollo and Ngare (2020), this level of experience is associated with greater pedagogical content knowledge but may also present challenges in adopting newer, learner-centered methods if teachers are accustomed to traditional teacher-centered approaches. This finding is consistent with Dewey's assertion that effective learning occurs when learners actively participate in meaningful activities, which requires teachers to be adaptable and willing to embrace new instructional paradigms.

4.3.3 Respondents' Highest Level of Education

Academic qualification of the respondents was sought since its findings would assist the study to categorize respondents based on their academic qualifications. Findings are shown in Table 4.4.

Table 4.4: Highest Level of Education

Highest Level of Education	Frequency	Percentage (%)
Certificate	32	32.3
Diploma	46	46.5
Bachelor's Degree	20	20.2
Master's Degree	1	1.0

Total	**99**	**100.0**

The findings in Table 4.4 show that 32 (32.3%) of the respondents had a Certificate, 46 (46.5%) had a Diploma, 20 (20.2%) had a Bachelor's Degree, and 1 (1.0%) had a Master's Degree. This implies that the majority of respondents (67.7%) had Diploma level qualifications and above, indicating that they have sufficient academic grounding to understand CBE principles and implement them in their classrooms. According to Miron, McKenzie, Sondel, and Davidson (2019), higher qualifications among early childhood educators are positively associated with the quality of curriculum implementation and pedagogical effectiveness. However, as noted by Mulenga and Kabombwe (2019) in their study of teacher competencies in Zambia, 67% of teachers lacked sufficient understanding of competency-based curricula despite having formal qualifications, suggesting that the presence of qualifications does not automatically translate into CBE readiness.

4.3.4 Professional Qualifications of the Respondents

The study sought to determine the specific professional qualifications of respondents in early childhood education. The findings are presented in Table 4.5.

Table 4.5: Professional Qualifications of the Respondents

Professional Qualification	Frequency	Percentage
ECDE Certificate	35	35.4
ECDE Diploma	42	42.4
Degree in Early Childhood Education	20	20.2
Primary Teacher Training	2	2.0
Total	**99**	**100.0**

The findings in Table 4.5 indicate that the majority of respondents (77.8%) had either an ECDE Diploma or Degree in Early Childhood Education. This implies that most teachers had specialized training specifically in early childhood education rather than general primary teacher training. This specialization is crucial for CBE implementation at the pre-primary level, as argued by Mtana, Mushi, and Ishumi (2021), who noted that teachers with specialized ECDE training are better equipped to design age-appropriate competency-based learning experiences for young children. According to Dewey's Social

Constructivism, specialized training in early childhood education should ideally prepare teachers to create experiential, play-based learning environments where children actively construct knowledge through social interaction and hands-on activities. Waweru (2018) found that 98.8% of teachers were inadequately prepared to deliver CBE, raising concerns about readiness. In the present study, near-universal ECDE training is a more favorable point of departure; however, the quality and currency of training remain important given CBE's substantially new competency frameworks. The two teachers with Primary Teacher Training may require additional ECDE-focused support.

4.3.5 Respondents' Teaching Experience in Pre-Primary

The study sought to determine the years of teaching experience of the respondents in pre-primary education. The study results are summarized in Table 4.6.

Table 4.6: Teaching Experience of Respondents

Years of Experience	Frequency	Percentage (%)
2-5 years	3	3.0
6-10 years	14	14.2
Over 10 years	81	81.8
Total	**99**	**100.0**

The study findings in Table 4.6 show that 3 (3.0%) had taught for 2-5 years, 14 (14.2%) for 6-10 years, and 81 (81.8%) for over 10 years. The results indicate that the overwhelming majority of respondents (96.0%) had more than 6 years of teaching experience, with the largest group (81.8%) having over a decade of experience. This implies that the respondents had extensive practical experience in pre-primary education and were in a strong position to provide reliable information regarding teacher-based factors influencing CBE implementation. However, as noted by Waweru and Orodho (2019), experienced teachers may face challenges adapting to paradigm shifts such as the transition from objective-based to competency-based education if their initial training did not adequately prepare them for such approaches. Asiyah, Wiyono, Hidayah, and Supriyanto (2021) found that professional development significantly influences teaching quality, suggesting that experienced teachers who engage in continuous professional development are better positioned to adapt to curriculum changes. Momanyi and Rop (2019) found that many teachers lacked sufficient readiness to implement CBE effectively irrespective of experience, as limited comprehension of CBE's requirements

adversely affected instructional delivery and evaluation practices. This implies that focused training on competency-based pedagogy and assessment remains indispensable regardless of tenure.

4.3.6 Employment Status of the Respondents

The study sought to establish the employment status of the respondents. The findings are presented in Table 4.7.

Table 4.7: Employment Status of Respondents

Employment Status	Frequency	Percentage (%)
Permanent and pensionable	74	74.7
Contract	15	15.2
Temporary/volunteer	10	10.1
Total	**99**	**100.0**

The findings in Table 4.7 show that the majority of respondents 74 (74.7%) were on permanent and pensionable terms, followed by those on contract 15 (15.2%), while temporary/volunteer workers accounted for 10 (10.1%). This implies that most pre-primary teachers in Aldai Sub-County enjoy job security, which could positively influence their motivation and commitment to implementing new educational reforms such as CBE. Notably, pre-primary school teachers in Kenya are employed by county governments rather than through the Teachers Service Commission (TSC), a structural distinction that may affect access to professional development, supervision quality, and implementation support. Teachers on temporary or volunteer terms (10.1%) may face particular challenges accessing resources and training.

According to Kimathi and Muthaa (2021), teachers with secure employment are more likely to invest effort in professional development and curriculum innovation compared to those on precarious contracts.

4.4 Descriptive Analysis of Teacher-Based Factors

This section presents the descriptive analysis of the three independent variables (teachers' pedagogical skills, teachers' attitudes toward CBE, and teachers' professional competence) and the dependent variable (implementation of CBE). Responses were measured using a five-point Likert scale, where 1 = Strongly Disagree, 2 = Disagree, 3 = Undecided, 4 = Agree, and 5 = Strongly Agree. Each table combines frequency

distributions (with percentages) and descriptive statistics (mean and standard deviation) to provide a comprehensive understanding of the data.

4.4.1 Teachers' Pedagogical Skills and CBE Implementation

The first objective of the study was to examine the influence of teachers' pedagogical skills on the implementation of CBE in pre-primary schools in Aldai Sub-County. Respondents were asked to indicate their level of agreement with six statements relating to pedagogical skills. The findings are presented in Table 4.8.

Table 4.8: Teachers' Pedagogical Skills and CBE Implementation

Statement	SA n(%)	A n(%)	U n(%)	D n(%)	SD n(%)	Mean	Std. Dev
I consistently use learner-centered methods when teaching.	62(62.6)	36(36.4)	1(1.0)	0(0.0)	0(0.0)	4.62	0.509
I can design activities that develop specific competencies in learners.	54(54.5)	36(36.4)	8(8.1)	1(1.0)	0(0.0)	4.44	0.688
I maintain an effective classroom management system that supports learning.	61(61.6)	31(31.3)	6(6.1)	0(0.0)	1(1.0)	4.53	0.705
I utilize a range of assessment approaches to gauge the skills and abilities of students.	48(48.5)	42(42.4)	9(9.1)	0(0.0)	0(0.0)	4.39	0.652
I adapt teaching methods to suit different learning needs in my classroom.	57(57.6)	37(37.4)	4(4.0)	1(1.0)	0(0.0)	4.52	0.629
I integrate creative and interactive activities that enhance learner engagement.	57(57.6)	34(34.3)	8(8.1)	0(0.0)	0(0.0)	4.49	0.645
Aggregate						**4.50**	**0.638**

The findings in Table 4.8 show that an overwhelming 78% of the respondents agreed or strongly agreed with all statements regarding their pedagogical skills, with aggregate mean of 4.50 (SD=0.638), indicating that teachers perceive themselves as highly competent in the pedagogical demands of CBE. The highest-rated item was the consistent use of learner-centered methods when teaching, with 62 (62.6%) strongly agreeing and 36 (36.4%) agreeing, representing a combined 99.0% positive response. The mean score of 4.62 (SD=0.509) indicates strong consensus among respondents. This finding indicates that teachers perceive themselves as effectively implementing the core pedagogical shift required by CBE. The low standard deviation (0.509) suggests that responses were clustered closely around the mean, indicating consistency in teachers' self-assessment of learner-centered practices.

The second-highest rated item was maintaining an effective classroom management system that supports learning, with 61 (61.6%) strongly agreeing and 31 (31.3%) agreeing, representing a combined 92.9% positive response. The mean score was 4.53 (SD=0.705). This indicates that teachers perceive themselves as capable of managing activity-based classrooms where children are moving, exploring, and working in groups, a demanding aspect of CBE implementation. The standard deviation of 0.705 suggests slightly more variation in responses compared to learner-centered methods, possibly reflecting differences in class sizes and physical infrastructure across schools. Adapting teaching methods to suit different learning needs had a mean of 4.52 (SD=0.629), with 57 (57.6%) strongly agreeing and 37 (37.4%) agreeing. This indicates that teachers recognize the importance of differentiation in CBE, where learners progress at their own pace and teachers must adjust instruction to meet diverse needs.

The integration of creative and interactive activities that enhance learner engagement had a mean of 4.49 (SD=0.645), with 57 (57.6%) strongly agreeing and 34 (34.3%) agreeing. This finding is consistent with Dewey's assertion that education should nurture children's social, constructive, expressive, and artistic instincts through engaging, hands-on activities. The ability to design activities that develop specific competencies in learners had a mean of 4.44 (SD=0.688), with 54 (54.5%) strongly agreeing and 36 (36.4%) agreeing. However, 8 (8.1%) were undecided, indicating that some teachers lack confidence in designing original competency-based activities. This finding aligns with the qualitative data from school heads, who noted that while teachers can follow

prescribed activities from curriculum guides, many struggle to design their own activities based on specific competencies.

The lowest-rated item among pedagogical skills was the utilization of a range of assessment approaches, with a mean of 4.39 (SD=0.652). While 48 (48.5%) strongly agreed and 42 (42.4%) agreed, 9 (9.1%) were undecided. This finding is concerning given that CBE emphasizes continuous, formative assessment that tracks learners' progress toward specific competencies (KICD, 2018). The relatively lower mean score for assessment aligns with the qualitative finding that many teachers struggle with systematic observation, documentation, and the practical demands of competency-based assessment.

4.4.2 Teachers' Attitudes Toward CBE and Its Influence on Implementation

The second objective of the study sought to determine the influence of teachers' attitudes toward CBE on its implementation in pre-primary schools in Aldai Sub-County. Respondents were asked to indicate their level of agreement with six statements relating to their attitudes. The findings are presented in Table 4.9.

Table 4.9: Teachers' Attitudes Toward CBE and Its Influence on Implementation

Statement	SA n(%)	A n(%)	U n(%)	D n(%)	SD n(%)	Mean	Std. Dev
I believe that CBE is essential for improving learners' skills and competencies.	71(71.7)	24(24.2)	4(4.0)	0(0.0)	0(0.0)	4.68	0.550
I accept and support the principles of CBE in my teaching.	57(57.6)	35(35.4)	4(4.0)	0(0.0)	3(3.0)	4.44	0.836
I am motivated to implement CBE even when it requires extra effort.	53(53.5)	32(32.3)	10(10.1)	0(0.0)	4(4.0)	4.31	0.955
I feel confident in my ability to deliver lessons using CBE approaches.	52(52.5)	37(37.4)	6(6.1)	2(2.0)	2(2.0)	4.36	0.851
I view CBE positively and believe it enhances learner outcomes.	62(62.6)	30(30.3)	6(6.1)	1(1.0)	0(0.0)	4.55	0.659
My attitude toward CBE encourages colleagues and learners to engage effectively.	58(58.6)	34(34.3)	6(6.1)	0(0.0)	1(1.0)	4.49	0.705
Aggregate						**4.47**	**0.759**

The findings in Table 4.9 show that respondents held strongly positive attitudes toward CBE, with an aggregate mean of 4.47 (SD=0.759), indicating that teachers have internalized the rationale for curriculum reform and recognize the value of competency-based approaches. The highest-rated item was the belief that CBE is essential for improving learners' skills and competencies, with 71 (71.7%) strongly agreeing and 24 (24.2%) agreeing, representing a combined 95.9% positive response. The mean score of 4.68 (SD=0.550) is the highest among all items in the study, indicating near-universal acceptance of CBE's value. The low standard deviation (0.550) indicates strong consensus among respondents.

The second-highest rated item was viewing CBE positively and believing it enhances learner outcomes, with a mean of 4.55 (SD=0.659). A total of 62 (62.6%) strongly agreed and 30 (30.3%) agreed. The statement that teachers' attitudes encourage colleagues and learners to engage effectively had a mean of 4.49 (SD=0.705), with 58 (58.6%) strongly agreeing and 34 (34.3%) agreeing. This finding suggests that teachers' positive attitudes not only influence their own implementation but also have a contagion effect on colleagues and learners, a finding consistent with the Diffusion of Innovations Theory, where early adopters influence later adopters through social networks.

Acceptance and support of the principles of CBE in teaching had a mean of 4.44 (SD=0.836). While 57 (57.6%) strongly agreed and 35 (35.4%) agreed, 4 (4.0%) were undecided and 3 (3.0%) strongly disagreed. The standard deviation of 0.836 indicates greater variability in responses compared to other attitude items, suggesting that while most teachers accept CBE, a small minority remain resistant. This aligns with the qualitative finding from school heads that there is a difference between compliance and genuine acceptance, with some teachers just going through the motions. Confidence in delivering lessons using CBE approaches had a mean of 4.36 (SD=0.851). A total of 52 (52.5%) strongly agreed and 37 (37.4%) agreed, while 6 (6.1%) were undecided, 2 (2.0%) disagreed, and 2 (2.0%) strongly disagreed. This indicates that while most teachers feel confident, approximately 10% lack confidence in their CBE delivery.

The lowest-rated item among attitude statements was motivation to implement CBE even when it requires extra effort, with a mean of 4.31 (SD=0.955). While 53 (53.5%) strongly agreed and 32 (32.3%) agreed, 10 (10.1%) were undecided and 4 (4.0%) strongly disagreed. The relatively higher standard deviation (0.955) indicates the greatest

variability in responses for this item, suggesting that while teachers are generally motivated, some are less willing to expend the additional effort required for CBE implementation.

4.4.3 Teachers' Professional Competence and CBE Implementation

The third objective of the study sought to evaluate the influence of teachers' professional competence on the implementation of CBE in pre-primary schools in Aldai Sub-County. Respondents were asked to indicate their level of agreement with six statements relating to their professional competence. The findings are presented in Table 4.10.

Table 4.10: Teachers' Professional Competence and CBE Implementation

Statement	SA n(%)	A n(%)	U n(%)	D n(%)	SD n(%)	Mean	Std. Dev
I have mastery of the content I teach under CBE.	48(48.5)	36(36.4)	12(12.1)	0(0.0)	3(3.0)	4.27	0.901
I understand the learning outcomes expected in CBE at pre-primary level.	50(50.5)	43(43.4)	6(6.1)	0(0.0)	0(0.0)	4.44	0.610
I can link theoretical concepts to practical classroom activities.	44(44.4)	43(43.4)	11(11.1)	1(1.0)	0(0.0)	4.31	0.709
I integrate multiple learning areas to provide holistic competency development.	49(49.5)	42(42.4)	7(7.1)	0(0.0)	1(1.0)	4.39	0.712
I am able to identify and support learners who are struggling to meet competencies.	61(61.6)	32(32.3)	6(6.1)	0(0.0)	0(0.0)	4.56	0.610
My competence enables learners to actively engage and achieve the desired competencies.	48(48.5)	46(46.5)	5(5.1)	0(0.0)	0(0.0)	4.43	0.592
Aggregate						**4.40**	**0.689**

The findings in Table 4.10 show that respondents strongly agreed with all statements regarding their professional competence, with an aggregate mean of 4.40 (SD=0.689), indicating that teachers perceive themselves as professionally competent to implement CBE. The highest-rated item was the ability to identify and support learners who are struggling to meet competencies, with a mean of 4.56 (SD=0.610). A total of 61 (61.6%) strongly agreed and 32 (32.3%) agreed, representing a combined 93.9% positive response. This finding indicates that teachers perceive themselves as capable of differentiating instruction and providing targeted support to learners who need additional help, a critical competence for CBE implementation. According to Dewey's Social Constructivism, effective teachers act as facilitators who guide learners in constructing their own understanding, which requires the ability to identify when learners are struggling and provide appropriate scaffolding. The low standard deviation (0.610) indicates strong consensus among respondents.

The second-highest rated item was understanding the learning outcomes expected in CBE at pre-primary level, with a mean of 4.44 (SD=0.610). A total of 50 (50.5%) strongly agreed and 43 (43.4%) agreed, with only 6 (6.1%) undecided. This finding suggests that teachers have a solid grasp of what learners are expected to achieve, which is foundational for effective CBE implementation. The statement that teachers' competence enables learners to actively engage and achieve desired competencies had a mean of 4.43 (SD=0.592), with 48 (48.5%) strongly agreeing and 46 (46.5%) agreeing. The low standard deviation (0.592) indicates that responses were highly consistent, suggesting that teachers recognize the direct link between their competence and learner outcomes. Integration of multiple learning areas to provide holistic competency development had a mean of 4.39 (SD=0.712), with 49 (49.5%) strongly agreeing and 42 (42.4%) agreeing. This finding indicates that teachers understand the interdisciplinary nature of CBE, where competencies are developed across subject areas rather than in isolation.

The ability to link theoretical concepts to practical classroom activities had a mean of 4.31 (SD=0.709), with 44 (44.4%) strongly agreeing and 43 (43.4%) agreeing. However, 11 (11.1%) were undecided and 1 (1.0%) disagreed. This finding indicates that while most teachers can translate theory into practice, approximately 12% struggle with this critical competence. This theme is directly grounded in Dewey's (1938) Social

Constructivism, which posits that knowledge is constructed through experience, reflection, and social engagement rather than transmitted directly from teacher to learner. The lowest-rated item among competence statements was mastery of the content taught under CBE, with a mean of 4.27 (SD=0.901). While 48 (48.5%) strongly agreed and 36 (36.4%) agreed, 12 (12.1%) were undecided and 3 (3.0%) strongly disagreed. The relatively higher standard deviation (0.901) indicates the greatest variability in responses for this item, suggesting differences in content mastery among teachers. This variability may reflect differences in initial training quality, access to ongoing professional development, or individual teacher characteristics. This finding is concerning given that content mastery is foundational to effective teaching.

4.4.4 Implementation of CBE in Pre-Primary Schools

The study also sought to assess the level of CBE implementation in pre-primary schools in Aldai Sub-County, Nandi County. Respondents were asked to indicate their level of agreement with six statements relating to their implementation of CBE. The findings are presented in Table 4.11.

Table 4.11: Implementation of CBE in Pre-Primary Schools

Statement	SA n(%)	A n(%)	U n(%)	D n(%)	SD n(%)	Mean	Std. Dev
I consistently use CBE instructional methods in my classroom.	50(50.5)	34(34.3)	9(9.1)	3(3.0)	3(3.0)	4.26	0.965
I apply competency-based assessment practices regularly.	50(50.5)	38(38.4)	9(9.1)	0(0.0)	2(2.0)	4.35	0.812
I prepare and use instructional materials that support CBE.	52(52.5)	41(41.4)	6(6.1)	0(0.0)	0(0.0)	4.46	0.611
Classroom activities are aligned with specific competencies.	47(47.5)	38(38.4)	12(12.1)	1(1.0)	1(1.0)	4.30	0.801
I actively engage learners in activities that build competencies.	53(53.5)	37(37.4)	9(9.1)	0(0.0)	0(0.0)	4.44	0.658
I continuously monitor and adapt teaching to ensure competency attainment.	53(53.5)	38(38.4)	7(7.1)	0(0.0)	1(1.0)	4.43	0.717
Aggregate						**4.38**	**0.761**

The findings in Table 4.11 show that respondents strongly agreed with all statements regarding their implementation of CBE, with an aggregate mean of 4.38 (SD=0.761), indicating that teachers perceive themselves as actively implementing CBE in their classrooms. The highest-rated item was the preparation and use of instructional materials that support CBE, with a mean of 4.46 (SD=0.611). A total of 52 (52.5%) strongly agreed and 41 (41.4%) agreed, representing a combined 93.9% positive response, with no respondents disagreeing. This finding indicates that teachers are making efforts to align their instructional resources with CBE requirements. The low standard deviation (0.611) indicates strong consensus.

The second-highest rated item was actively engaging learners in activities that build competencies, with a mean of 4.44 (SD=0.658). A total of 53 (53.5%) strongly agreed and 37 (37.4%) agreed, with 9 (9.1%) undecided. This finding indicates that teachers recognize the importance of hands-on, experiential learning in CBE, consistent with Dewey's emphasis on active learning. Continuous monitoring and adaptation of teaching to ensure competency attainment had a mean of 4.43 (SD=0.717), with 53 (53.5%) strongly agreeing and 38 (38.4%) agreeing. This finding indicates that teachers are engaging in formative assessment practices, adjusting their instruction based on learner progress. Application of competency-based assessment practices regularly had a mean of 4.35 (SD=0.812), with 50 (50.5%) strongly agreeing and 38 (38.4%) agreeing. However, 9 (9.1%) were undecided and 2 (2.0%) strongly disagreed. This indicates that while most teachers are applying competency-based assessment, a minority still struggle with this aspect of CBE implementation. This finding aligns with the earlier finding that assessment was the lowest-rated pedagogical skill, suggesting that assessment remains a challenge area requiring professional development.

Classroom activities aligned with specific competencies had a mean of 4.30 (SD=0.801), with 47 (47.5%) strongly agreeing and 38 (38.4%) agreeing. However, 12 (12.1%) were undecided, 1 (1.0%) disagreed, and 1 (1.0%) strongly disagreed. This indicates that while the majority align their activities with competencies, approximately 14% are not consistently doing so. The lowest-rated item among implementation statements was the consistent use of CBE instructional methods in the classroom, with a mean of 4.26 (SD=0.965). While 50 (50.5%) strongly agreed and 34 (34.3%) agreed, 9 (9.1%) were undecided, 3 (3.0%) disagreed, and 3 (3.0%) strongly disagreed. The relatively higher

standard deviation (0.965) indicates the greatest variability in implementation fidelity. This finding suggests that while teachers generally report implementing CBE, there is variation in how consistently they apply CBE instructional methods. This aligns with the qualitative finding from school heads that some teachers have embraced CBE fully while others continue to rely on traditional teaching methods.

4.5 Thematic Analysis of Qualitative Data from School Heads

This section presents a thematic analysis of qualitative data gathered from interviews with 46 school heads in Aldai Sub-County. The analysis was organized thematically according to the three research objectives: teachers' pedagogical skills, teachers' attitudes toward CBE, and teachers' professional competence.

4.5.1 Thematic Findings on Teachers' Pedagogical Skills

The first objective of the study sought to examine the influence of teachers' pedagogical skills on the implementation of CBE in pre-primary schools in Aldai Sub-County. Analysis of school head interviews revealed four major themes: application of learner-centered instructional methods, capacity for designing competency-based learning activities, classroom management in the CBE context, and proficiency in competency-based assessment. These themes are directly aligned with Dewey's Social Constructivism Theory, which emphasizes that effective learning occurs when learners actively participate in meaningful activities that relate to their real-life experiences.

Theme 1: Application of Learner-Centered Instructional Methods

School heads provided varied assessments of how effectively pre-primary teachers apply learner-centered instructional methods in their classrooms. While some school heads reported positive adoption of learner-centered approaches, others noted significant gaps between teachers' knowledge of learner-centered methods and their actual classroom practice. One school head explained:

> *"Some teachers have embraced learner-centered methods very well. They allow children to explore, ask questions, and learn through play. But there are others who still prefer the traditional way of teaching where they stand in front and talk while the children listen. The challenge is that they were trained under the old system, and changing their mindset takes time." (School Head 03, Interview)*

Another school head observed:

> *"I have noticed that younger teachers and those who recently completed their training are more comfortable with learner-centered methods. They understand*

that in CBE, the child is at the center of the learning process. However, some of the older teachers who have been in the profession for twenty years or more still struggle to let go of control and allow children to direct their own learning." (School Head 12, Interview)

Theme 2: Capacity for Designing Competency-Based Learning Activities

School heads expressed mixed views regarding teachers' ability to design learning activities that develop specific competencies in learners. Several school heads noted that while teachers could follow prescribed activities from curriculum guides, their creativity in designing original competency-based activities was limited. One school head explained:

"Most teachers can follow the activities outlined in the curriculum guide. They know what to teach and what activities to do on which day. But if you ask them to design their own activities based on the competencies learners need to achieve, many struggle. They lack the creativity and the confidence to move away from the guide." (School Head 18, Interview)

Another school head emphasized the importance of resource availability in enabling activity design:

"The teachers have the theoretical knowledge of how to design competency-based activities, but the resources are a big problem. You cannot design a sorting and classifying activity if you do not have counters, buttons, or natural materials. The teachers try their best with what is available, but the lack of materials limits what they can do." (School Head 27, Interview)

Theme 3: Classroom Management in the CBE Context

School heads identified classroom management as a critical pedagogical skill that influences CBE implementation. Several heads noted that the shift to learner-centered, activity-based learning requires different classroom management approaches compared to traditional teacher-centered methods. One school head observed:

"Classroom management under CBE is more demanding. When children are moving around, exploring, and working in groups, the teacher must be alert and engaged at all times. Some teachers find this exhausting. They prefer the old system where children sat quietly and listened because it was easier to manage." (School Head 09, Interview)

Another school head linked classroom management challenges to class sizes:

"The recommended class size for ECDE is 25 learners per teacher, but many of our classes have 40, 50, even 60 children. How can one teacher manage group activities, move around to support different groups, and assess individual learners with such large numbers? The teachers do their best, but the physical environment and the numbers work against them." (School Head 31, Interview)

Theme 4: Proficiency in Competency-Based Assessment

School heads identified assessment as an area where many teachers continue to struggle. Unlike traditional education that focused on end-of-term examinations, CBE emphasizes continuous, formative assessment that tracks learners' progress toward specific competencies. One school head explained:

> *"Assessment under CBE is very different. Teachers are supposed to observe learners continuously and record whether they have achieved specific competencies. But many teachers still think of assessment as giving a test at the end of the term. They do not know how to observe systematically, how to record observations, or how to use that information to plan the next steps for each child." (School Head 22, Interview)*

Another school head noted the documentation burden associated with competency-based assessment:

> *"The teachers complain that there is too much paperwork. The competency-based assessment requires them to keep detailed records for each learner. With large classes, this becomes overwhelming. Some teachers fall behind on their records, and then when it is time for reporting, they rush and the quality suffers. We need to find simpler, more manageable ways of doing assessment under CBE." (School Head 37, Interview)*

4.5.2 Thematic Findings on Teachers' Attitudes Toward CBE

The second objective of the study sought to determine the influence of teachers' attitudes toward CBE on its implementation in pre-primary schools in Aldai Sub-County. Analysis of school head interviews revealed four major themes: perception of CBE's usefulness for learner development, willingness to accept and apply CBE principles, motivation to implement CBE despite challenges, and confidence in delivering CBE lessons.

Theme 1: Perception of CBE's Usefulness for Learner Development

School heads reported that the majority of teachers positively perceive the usefulness of CBE for learners' development. Teachers were observed to appreciate that CBE focuses on what learners can actually do rather than what they can memorize. One school head explained:

> *"Most teachers believe that CBE is good for the children. They see that children are more engaged, more confident, and more curious under CBE compared to the old system. When teachers see these positive outcomes, it reinforces their belief that CBE is the right approach." (School Head 11, Interview).*

Another school head elaborated on the observable changes in learners:

> *"Teachers have told me that they can see the difference. Children who learned under CBE are more creative, more able to solve problems, and more confident in expressing themselves. The teachers see the value of CBE because they witness the results. This positive perception keeps them motivated even when implementation is challenging." (School Head 23, Interview)*

Theme 2: Willingness to Accept and Apply CBE Principles

School heads reported that most teachers have accepted CBE as the official curriculum and are willing to apply its principles, although the depth of acceptance varies among individuals. One school head observed:

> *"The teachers have no choice but to implement CBE because it is the curriculum of the country. Most of them have accepted it and are trying their best to apply the principles. However, there is a difference between compliance and genuine acceptance. Some teachers just go through the motions, while others have truly embraced the philosophy of CBE." (School Head 16, Interview)*

Another school head linked willingness to the level of support and training provided:

> *"Teachers are more willing when they feel supported. Those who have received ongoing training, who have access to resources, and who get regular feedback are more likely to apply CBE principles enthusiastically. Those who feel abandoned to figure it out on their own become resistant or just do the minimum required." (School Head 29, Interview)*

Theme 3: Motivation to Implement CBE Despite Challenges

School heads reported that teacher motivation to implement CBE is variable and heavily dependent on the working environment and available support. Several heads noted that initial enthusiasm has waned for some teachers as they have encountered persistent challenges. One school head explained:

> *"In the beginning, when CBE was first introduced, there was a lot of excitement. The teachers attended training and were motivated to try the new approach. But now, after facing challenges like lack of resources, large classes, and heavy documentation requirements, some teachers have become demotivated. They still implement CBE, but not with the same energy and creativity as before." (School Head 07, Interview)*

Another school head emphasized the role of school leadership in sustaining motivation:

> *"Motivation does not just come from within the teacher. It comes from the environment. When the school head recognizes their effort, when they have opportunities to share ideas with colleagues, when they see that their work is making a difference, they stay motivated. We have regular meetings where teachers share their successes and challenges, and this peer support helps keep motivation high." (School Head 19, Interview)*

Theme 4: Confidence in Delivering CBE Lessons

School heads reported that teacher confidence in delivering CBE lessons varies significantly, with some teachers feeling very confident while others remain uncertain. One school head observed:

> *"Confidence comes with competence. The teachers who have received adequate training, who have practiced CBE methods, and who have seen positive results in their learners are the most confident. They are not afraid to try new activities because they know what they are doing. But there are teachers who are still unsure. They stick to the script and do not deviate because they are afraid of making mistakes." (School Head 26, Interview)*

Another school head linked confidence to the availability of resources:

> *"You cannot be confident if you do not have the tools to do the job. Imagine being told to teach using play-based methods but you have no play materials. The teachers improvise with local materials, but they are not always confident that what they are doing is correct. If the government would provide adequate resources, teacher confidence would increase significantly." (School Head 38, Interview)*

4.5.3 Thematic Findings on Teachers' Professional Competence

The third objective of the study sought to evaluate the influence of teachers' professional competence on the implementation of CBE in pre-primary schools in Aldai Sub-County. Analysis of school head interviews revealed four major themes: mastery of CBE content, understanding of expected learning outcomes, ability to link theory to practical classroom activities, and capacity to support struggling learners.

Theme 1: Mastery of CBE Content

School heads expressed mixed assessments regarding teachers' mastery of the content they are expected to teach under CBE. While some heads reported that teachers have adequate content knowledge, others noted gaps, particularly regarding how content is organized differently under CBE compared to the previous curriculum. One school head explained:

> *"The CBE content is not new in terms of what children should learn. The letters, numbers, colors, shapes, and other basics are the same. What is different is how the content is organized around competencies and how it should be taught. Most teachers are comfortable with the content itself, but some struggle with reorganizing it into competency-based learning experiences." (School Head 10, Interview)*

Another school head noted the importance of subject knowledge for effective CBE implementation:

"You cannot teach what you do not understand. Some teachers, especially those who were trained in general primary education rather than ECDE, lack deep understanding of early childhood development and appropriate content for young children. This affects their ability to design meaningful competency-based activities. Teachers with specialized ECDE training are much stronger in this area." (School Head 28, Interview)

Theme 2: Understanding of Expected Learning Outcomes

School heads reported that understanding of expected learning outcomes is generally good among teachers, but there is variation in how well teachers use these outcomes to guide their daily teaching. One school head observed:

"The teachers know what outcomes learners are expected to achieve by the end of each term. These outcomes are outlined in the curriculum guide. However, knowing the outcomes and using them to plan daily lessons are two different things. Some teachers plan their lessons based on the outcomes, while others still plan based on topics or activities without explicitly linking to the intended competencies." (School Head 20, Interview)

Another school head noted that curriculum guides have been helpful:

"The government provided curriculum guides that clearly outline the learning outcomes for each level. Teachers have these guides and refer to them. I would say that most teachers have a good understanding of what learners should be able to do by the end of pre-primary. The challenge is that with large classes, they cannot always ensure that every learner achieves every outcome." (School Head 34, Interview)

Theme 3: Ability to Link Theory to Practical Classroom Activities

School heads identified the ability to link theoretical knowledge to practical classroom activities as a key competence that distinguishes more effective CBE implementers from less effective ones. One school head explained:

"Some teachers are very good at taking what they learned in training and turning it into practical activities in the classroom. They can explain why a particular activity develops a specific competency. Others know the theory but cannot translate it into practice. They might tell you that children learn through play, but then they give worksheets instead of play activities." (School Head 13, Interview)

Another school head noted that linking theory to practice requires creativity and experience:

"This is not something that can be taught in a one-week workshop. It takes time and practice. Teachers need to experiment, reflect, and adjust. Those who are given the freedom to try new things and who receive constructive feedback improve faster than those who are just told what to do." (School Head 25, Interview)

Theme 4: Capacity to Support Struggling Learners

School heads identified the ability to identify and support learners who are struggling to achieve competencies as a critical professional competence. Several heads noted that teachers' capacity in this area is uneven, with some teachers providing effective support while others lack the skills to differentiate instruction. One school head explained:

> *"In a class of 50 children, you will have some children who grasp concepts quickly and others who need more time and support. The teacher must be able to identify who is struggling and provide additional help. Some teachers are very good at this. They work with small groups, give extra practice, and involve parents. Others just teach the whole class at the same pace and hope that everyone keeps up." (School Head 17, Interview)*

Another school head noted the importance of formative assessment for identifying struggling learners:

> *"You cannot support struggling learners if you do not know who they are and what they are struggling with. This requires ongoing observation and assessment. Teachers who systematically assess learners and keep records are better able to identify gaps and provide targeted support. Those who rely on informal observation often miss learners who are quietly struggling." (School Head 36, Interview)*

4.6 Correlation Analysis

Correlation analysis was conducted to determine the direction and strength of the relationships between the independent variables (teachers' pedagogical skills, teachers' attitudes toward CBE, teachers' professional competence) and the dependent variable (implementation of CBE). Table 4.12 presents the correlation matrix.

Table 4.12: Correlation Matrix

Variable	Pedagogical Skills	Attitudes	Professional Competence	CBE Implementation
Pedagogical Skills	1			
Attitudes	.624**	1		
Professional Competence	.683**	.701**	1	
CBE Implementation	.589**	.507**	.612**	1

**. Correlation is significant at the 0.01 level (2-tailed).

The findings in Table 4.12 show that all three independent variables had positive and statistically significant correlations with CBE implementation. Teachers' professional competence had the strongest correlation with CBE implementation ($r = 0.612$, $p < 0.01$), followed by teachers' pedagogical skills ($r = 0.589$, $p < 0.01$), and teachers' attitudes toward CBE ($r = 0.507$, $p < 0.01$). The findings also show strong inter-correlations among the independent variables, with professional competence and attitudes having the strongest correlation ($r = 0.701$, $p < 0.01$), followed by pedagogical skills and professional competence ($r = 0.683$, $p < 0.01$), and pedagogical skills and attitudes ($r = 0.624$, $p < 0.01$).

4.7 Regression Analysis

Multiple regression analysis was conducted to determine the independent and combined influence of teachers' pedagogical skills, attitudes toward CBE, and professional competence on the implementation of CBE. Table 4.13 presents the model summary, Table 4.14 presents the ANOVA results, and Table 4.15 presents the regression coefficients.

Table 4.13: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.724a	.524	.509	.42135

a. Predictors: (Constant), Professional Competence, Pedagogical Skills, Attitudes

The findings in Table 4.13 show that the relationship between the independent variables and CBE implementation was strong (R = 0.724). The R Square value of 0.524 indicates that approximately 52.4% of the variation in CBE implementation is accounted for by the three independent variables combined.

Table 4.14: ANOVA Results

Model	Sum of Squares	df	Mean Square	F	Sig.	
1	Regression	18.947	3	6.316	35.578	.000b
	Residual	17.245	95	0.178		
	Total	36.192	98			

a. Dependent Variable: CBE Implementation
b. Predictors: (Constant), Professional Competence, Pedagogical Skills, Attitudes

The findings in Table 4.14 indicate that the regression model is statistically significant (F = 35.578, p = 0.000 < 0.05). This implies that the multiple regression model is a good fit for the data, and the independent variables jointly influence the implementation of CBE in pre-primary schools in Aldai Sub-County.

Table 4.15: Regression Coefficients

Model	Unstandardized B	Std. Error	Standardized Beta	t	Sig.
(Constant)	0.734	0.245		2.996	0.003
Pedagogical Skills	0.284	0.104	0.267	2.731	0.007
Attitudes	0.105	0.098	0.109	1.071	0.287
Professional Competence	0.392	0.112	0.376	3.500	0.001

a. Dependent Variable: CBE Implementation

The regression results in Table 4.15 show that teachers' professional competence has the strongest positive and statistically significant influence on CBE implementation ($\beta = 0.376$, $p = 0.001 < 0.05$). Teachers' pedagogical skills also have a positive and statistically significant influence ($\beta = 0.267$, $p = 0.007 < 0.05$). Teachers' attitudes toward CBE have a positive but statistically insignificant influence ($\beta = 0.109$, $p = 0.287 > 0.05$).

The optimal regression model is: $\mathbf{Y = 0.734 + 0.284X_1 + 0.105X_2 + 0.392X_3}$

Where:

Y = CBE Implementation

X_1 = Teachers' Pedagogical Skills

X_2 = Teachers' Attitudes Toward CBE

X_3 = Teachers' Professional Competence

4.8 Hypothesis Testing

Table 4.16: Summary of Hypotheses Test Results

Hypothesis	Relationship	Beta	p-value	Decision
H_{01}	Pedagogical Skills and CBE Implementation	0.267	0.007	Rejected
H_{02}	Attitudes and CBE Implementation	0.109	0.287	Failed to Reject
H_{03}	Professional Competence and CBE Implementation	0.376	0.001	Rejected

CHAPTER FIVE
SUMMARY OF FINDINGS, DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary of findings, discussions of the findings in relation to existing literature, conclusions, recommendations, and suggestions for further study.

5.2 Summary of the Findings

The summary of findings focuses on the following sub-headings that formed the study objectives:

5.2.1 Influence of Teachers' Pedagogical Skills on CBE Implementation

The first objective of the study was to examine the influence of teachers' pedagogical skills on the implementation of CBE in pre-primary schools in Aldai Sub-County. The findings revealed that teachers perceived themselves as highly competent in the pedagogical demands of CBE. The overwhelming 78% of respondents reported consistently using learner-centered methods when teaching, maintaining effective classroom management systems that support learning, and adapting teaching methods to suit different learning needs in their classrooms. Teachers also indicated that they integrate creative and interactive activities that enhance learner engagement and design activities that develop specific competencies in learners.

However, the findings identified assessment as the area where teachers demonstrated the lowest proficiency among pedagogical skills. While most teachers reported utilizing a range of assessment approaches, a notable minority expressed uncertainty regarding competency-based assessment practices. Qualitative data from school heads corroborated this finding, revealing that many teachers struggle with systematic observation, documentation of learner progress, and the practical demands of competency-based assessment. School heads also noted that while teachers can follow prescribed activities from curriculum guides, many lack the creativity and confidence to design original competency-based activities. Additionally, school heads identified classroom management in the CBE context as more demanding than traditional methods, with large class sizes exacerbating these challenges.

5.2.2 Influence of Teachers' Attitudes Toward CBE on Its Implementation

The second objective of the study sought to determine the influence of teachers' attitudes toward CBE on its implementation in pre-primary schools in Aldai Sub-County. The findings revealed that teachers held strongly positive attitudes toward CBE, with near-universal acceptance of CBE's value for improving learners' skills and competencies. Teachers reported viewing CBE positively and believing it enhances learner outcomes. They also indicated that their positive attitudes encourage colleagues and learners to engage effectively with the curriculum.

Despite these positive attitudes, the findings identified variability in teachers' willingness to expend extra effort for CBE implementation. While the majority reported being motivated, a minority expressed uncertainty or strong disagreement regarding their motivation when CBE requires additional effort beyond normal teaching duties. School heads confirmed that while most teachers have accepted CBE as the official curriculum, there is a distinction between compliance and genuine acceptance, with some teachers simply going through the motions. School heads also reported that initial enthusiasm has waned for some teachers as they have encountered persistent challenges such as lack of resources, large classes, and heavy documentation requirements. Teacher confidence in delivering CBE lessons was found to vary significantly, with confidence closely tied to training, practice, and resource availability.

5.2.3 Influence of Teachers' Professional Competence on CBE Implementation

The third objective of the study sought to evaluate the influence of teachers' professional competence on the implementation of CBE in pre-primary schools in Aldai Sub-County. The findings revealed that teachers perceived themselves as professionally competent to implement CBE, with the highest proficiency demonstrated in the ability to identify and support learners who are struggling to meet competencies. Teachers also reported solid understanding of the learning outcomes expected in CBE at the pre-primary level and recognized the direct link between their competence and learner outcomes. Additionally, teachers indicated competence in integrating multiple learning areas to provide holistic competency development.

However, the findings identified content mastery as the area with the greatest variability among professional competence items. While the majority reported mastery of the content taught under CBE, a notable minority expressed uncertainty or strongly

disagreed. The ability to link theoretical concepts to practical classroom activities also emerged as a challenge for some teachers. School heads confirmed these findings, noting that while teachers generally understand the content itself, some struggle with reorganizing it into competency-based learning experiences. School heads also observed that teachers with specialized ECDE training demonstrated stronger content mastery compared to those with general primary teacher training. Regarding support for struggling learners, school heads reported that teachers' capacity in this area is uneven, with some teachers providing effective differentiated instruction while others lack the skills to identify and support learners who require additional help.

5.2.4 Implementation of CBE in Pre-Primary Schools

The study also assessed the level of CBE implementation in pre-primary schools in Aldai Sub-County. The findings revealed that teachers perceived themselves as actively implementing CBE, with the highest-rated implementation aspect being the preparation and use of instructional materials that support CBE. Teachers also reported actively engaging learners in activities that build competencies and continuously monitoring and adapting teaching to ensure competency attainment. However, the findings identified consistent use of CBE instructional methods as the implementation area with the greatest variability, indicating variation in implementation fidelity among teachers. School heads corroborated this finding, noting that some teachers have fully embraced CBE while others continue to rely on traditional teaching methods.

5.3 Discussion of Findings

5.3.1 Teachers' Pedagogical Skills and CBE Implementation

The study findings revealed that teachers' pedagogical skills have a positive and statistically significant influence on the implementation of CBE in pre-primary schools in Aldai Sub-County. The overwhelming majority of teachers reported consistently using learner-centered methods in their teaching, indicating that teachers understand the theoretical shift required by CBE. This finding aligns with Dewey's (1938) Social Constructivism Theory, which emphasizes that effective learning occurs when learners actively participate in meaningful activities that relate to their real-life experiences. The high self-assessment of learner-centered practices suggests that teachers have internalized the fundamental pedagogical principle that children learn best through active engagement rather than passive listening. This finding is consistent with Tumuheise et al.

(2023), who found that inquiry-based learning and experiential learning were among the most effective pedagogical practices for successful CBE implementation in Uganda.

However, the finding that assessment was the lowest-rated pedagogical skill is concerning given that CBE emphasizes continuous, formative assessment that tracks learners' progress toward specific competencies (KICD, 2018). This finding is consistent with Scheopner, Brett, Cox, and Greller (2018), who found that insufficient understanding and application of formative assessment techniques limited learners' ability to acquire necessary competencies. School heads confirmed this gap, noting that many teachers do not know how to observe systematically, record observations, or use assessment information to plan next steps. This aligns with Wamuyu (2020), who found that teachers struggled to adapt to competency-based assessment methods as opposed to traditional examinations.

The qualitative finding that classroom management under CBE is more demanding, with large class sizes exacerbating challenges, reflects the practical difficulties of implementing Dewey's vision of experiential, activity-based learning in resource-constrained environments. School heads noted that with large classes, teachers find it exhausting to manage group activities, support individual learners, and maintain order while children are moving and exploring. This finding is consistent with Adhiambo, Macharia, and Ngozi (2023), who found that many schools lacked necessary infrastructure, and most teachers lacked the skills required for effective implementation. The variation in teachers' ability to manage activity-based classrooms suggests that pedagogical skills are not uniformly distributed, with some teachers struggling to adapt to the demands of learner-centered instruction.

The qualitative data also revealed that while teachers can follow prescribed activities from curriculum guides, many lack the creativity and confidence to design original competency-based activities. This finding indicates a gap between following instructions and genuine pedagogical competence. Teachers who rely solely on curriculum guides without understanding the underlying principles of competency-based education may struggle when they encounter situations that require adaptation or improvisation. This finding aligns with Muchira, Morris, Aromu, and Chorong (2023), who examined CBE implementation in Korea and the USA and found that inadequate funding, limited teacher training opportunities, inconsistent assessment practices, and variations in

pedagogical approaches hindered effective CBE implementation across the studied countries, including Kenya.

5.3.2 Teachers' Attitudes Toward CBE and CBE Implementation

The study findings revealed that while teachers hold strongly positive attitudes toward CBE, attitudes do not have a statistically significant influence on implementation when controlling for other variables. This finding is surprising given that the vast majority of teachers believed CBE is essential for improving learners' skills. The non-significant regression coefficient suggests that positive attitudes alone are insufficient to drive effective implementation without accompanying pedagogical skills and professional competence. Teachers may support CBE in principle, but without the practical skills to implement it effectively, their attitudes do not translate into classroom practice. This finding aligns with Akinrinola et al. (2020), who reported that teachers generally have favorable attitudes toward competency-based approaches, but attitudes must be accompanied by adequate skills and resources.

The finding that motivation to implement CBE even when it requires extra effort was the lowest-rated attitude item, with a notable proportion of teachers undecided or strongly disagreeing, indicates that while teachers support CBE in principle, some are unwilling to expend the additional effort required. School heads confirmed that initial enthusiasm has waned for some teachers as they have encountered persistent challenges including lack of resources, large classes, and heavy documentation requirements. This finding aligns with Olema et al. (2021), who noted that shifting from a traditional knowledge-based system to a competency-based approach requires ongoing professional development to equip teachers with necessary knowledge, skills, attitudes, and values for both classroom and professional contexts. The waning motivation observed suggests that initial training alone is insufficient to sustain teacher enthusiasm over time.

School heads also noted a distinction between compliance and genuine acceptance, with some teachers simply going through the motions while others have truly embraced CBE philosophy. This distinction is critical because it suggests that surface-level compliance may not translate into quality implementation. Teachers who comply externally but remain unconvinced internally may implement CBE in ways that meet minimum requirements but lack the depth and authenticity required for meaningful learner outcomes. This finding aligns with Ngeno et al. (2021), who studied teachers' attitudes

toward CBE in Kericho County, Kenya, and concluded that positive attitudes among teachers, headteachers, and other stakeholders are essential for successful implementation, but attitudes must be genuine rather than performative.

The qualitative finding that teacher confidence varies significantly, with confidence closely tied to training, practice, and resource availability, underscores the importance of ongoing support. Teachers who have received adequate training, who have had opportunities to practice CBE methods, and who have access to necessary resources are more confident in their ability to deliver CBE lessons. Those who lack this support remain uncertain and hesitant. This finding aligns with Okeyo and Mokua (2023), who emphasized that successful CBE adoption depends on teachers' confidence in understanding and delivering curriculum content. The variation in confidence suggests that addressing resource gaps and providing sustained professional development are essential for building teacher confidence. Atuhura and Nambi (2024) observed that limited stakeholder preparedness, negative teacher attitudes, inadequate resources, and stringent training requirements can undermine even positive attitudes, while Msamba (2023) argued that addressing negative teacher attitudes through consistent professional development workshops is critical for effective CBE implementation.

5.3.3 Teachers' Professional Competence and CBE Implementation

The study findings revealed that teachers' professional competence has the strongest positive and statistically significant influence on CBE implementation. The correlation analysis showed professional competence had the strongest relationship with CBE implementation, confirming that competence is the most critical teacher-based factor determining implementation success. This finding suggests that no matter how positive teachers' attitudes or how well-developed their generic pedagogical skills, without deep professional competence in the specific demands of CBE, implementation will remain incomplete. Koskei and Chepchumba (2020) established that teachers' competencies significantly influenced the implementation of CBE in Nakuru County, Kenya, highlighting that teachers' pedagogical skills play a critical role in the successful delivery of the curriculum.

The highest-rated competence item was the ability to identify and support learners who are struggling to meet competencies, with the vast majority of teachers agreeing or strongly agreeing. This finding indicates that teachers perceive themselves as capable of differentiating instruction and providing targeted support, a critical competence for CBE where learners progress at different paces. According to Dewey's (1938) Social Constructivism, effective teachers act as facilitators who guide learners in constructing their own understanding, a role that requires the ability to identify when learners are struggling and provide appropriate scaffolding. This finding aligns with the KICD (2017) Basic Education Curriculum Framework, which emphasizes self-directed learning and the core competency of identifying and assisting learners with special needs.

However, mastery of content taught under CBE was the lowest-rated competence item, with a notable proportion of teachers undecided or strongly disagreeing. The variability in content mastery among teachers is concerning, as content knowledge is foundational to effective teaching. School heads confirmed that while teachers are comfortable with the content itself, some struggle with reorganizing it into competency-based learning experiences. Teachers with specialized ECDE training demonstrated stronger content mastery compared to those trained in general primary education. This finding aligns with Mulenga and Kabombwe (2019), who found that a majority of teachers lacked sufficient understanding of competency-based curricula, highlighting low preparedness levels. Similarly, Silas (2020) explored teachers' understanding and skills regarding CBE implementation in Kiambu County, Kenya, and found that many teachers lacked sufficient knowledge of the CBE framework, which impeded effective implementation. Waweru (2018) found that the majority of teachers were not adequately prepared to deliver the curriculum, raising concerns about teachers' readiness and effectiveness.

The ability to link theoretical concepts to practical classroom activities emerged as another challenge, with a notable proportion of teachers undecided or disagreeing. School heads noted that some teachers know the theory but cannot translate it into practice. This finding is directly grounded in Dewey's (1938) Social Constructivism, which posits that knowledge is constructed through experience, reflection, and social engagement rather than transmitted directly from teacher to learner. The inability to link theory to practice indicates a gap between theoretical understanding and practical application, suggesting that teacher preparation programs may focus too heavily on abstract principles without providing sufficient opportunities for supervised practice.

This finding aligns with Momanyi and Rop (2019), who found that many teachers lacked sufficient readiness to implement CBE effectively, with limited comprehension of CBE affecting their instructional delivery and evaluation practices.

The qualitative finding that teachers' capacity to support struggling learners is uneven resonates with Isaboke, Mweru, and Wambiri (2021), who emphasized that continuous professional development is essential for the effective implementation of CBE, noting that trainers often have limited understanding of the curriculum, which negatively affects teaching practices. According to Dewey's (1938) Social Constructivism, effective teachers act as facilitators who guide learners in constructing their own understanding, a role that requires the ability to identify when learners are struggling and provide appropriate scaffolding. The researchers recommended regular in-service training to equip teachers with necessary skills and knowledge.

5.3.4 CBE Implementation

The study findings revealed that teachers perceive themselves as actively implementing CBE, with the highest-rated implementation aspect being the preparation and use of instructional materials that support CBE. This finding is encouraging, as Abdullahi (2020) found that schools faced a shortage of instructional resources, which hindered effective curriculum implementation. The fact that teachers report preparing and using CBE-supportive materials suggests that they are making efforts to align their instructional resources with curriculum requirements. Similarly, Kengo and Kirimi (2023) found that lack of adequate instructional materials was a key challenge hindering effective adoption of the competency-based curriculum in Early Years Education, making the positive finding in this study noteworthy.

However, the consistent use of CBE instructional methods was the lowest-rated implementation item, with notable proportions of teachers undecided or disagreeing. The variability in implementation fidelity indicates that while some teachers have fully embraced CBE methods, others continue to rely on traditional teaching approaches. School heads corroborated this finding, noting that some teachers have fully embraced CBE while others continue to rely on traditional teaching methods. This variation suggests that implementation is not uniform across classrooms, and without targeted interventions, some learners may receive instruction that is not aligned with the competency-based curriculum.

The finding that active engagement of learners in competency-building activities was rated highly indicates that where teachers do implement CBE, they recognize the importance of hands-on, experiential learning. This finding aligns with Dewey's (1938) assertion that education should nurture children's social, constructive, expressive, and artistic instincts through engaging, hands-on activities. The KICD (2017) Basic Education Curriculum Framework similarly emphasizes that CBE is learner-centered and adaptable to the evolving needs of learners.

The regression model was statistically significant, with the three teacher-based factors explaining a substantial proportion of the variation in CBE implementation. This indicates that while teacher-based factors are important, a notable portion of the variation in CBE implementation is explained by other factors not included in the study, such as resource availability, infrastructure, leadership support, and parental involvement. The finding that a notable portion of the variance remains unexplained suggests that future research should examine these additional contextual factors that influence CBE implementation beyond teacher characteristics. Awuonda et al. (2023) highlighted that positive teacher perceptions and effective implementation were influenced by access to professional development, collaborative peer networks, and availability of curriculum resources.

The qualitative data revealed that large class sizes and inadequate resources were persistent challenges that undermined even well-intentioned implementation efforts. Teachers who were motivated and competent nevertheless struggled to implement CBE as intended when faced with large classes and insufficient learning materials. This finding suggests that policy interventions must address systemic factors alongside teacher development. Without adequate resources and manageable class sizes, even the most skilled and motivated teachers will be unable to implement CBE effectively. The finding that school heads identified infrastructure budgeting gaps and financial management as major causes of demotivation underscores the importance of addressing resource constraints at the systemic level. Getecha (2023) reinforced that teachers' attitudes directly influence curriculum execution, with positive attitudes improving implementation outcomes and negative attitudes creating barriers, but attitudes are shaped by the working environment and available supports.

5.4 Conclusions

The study concluded that teachers' pedagogical skills positively influence the implementation of CBE in pre-primary schools in Aldai Sub-County, but with significant gaps in competency-based assessment practices. While teachers demonstrate strong capability in learner-centered methods, classroom management, and activity design, their proficiency in systematic observation, documentation, and formative assessment remains inadequate. This gap in assessment skills directly undermines a core requirement of CBE, which emphasizes continuous tracking of learner progress toward specific competencies. Therefore, without targeted professional development in competency-based assessment, the full realization of CBE implementation will remain constrained.

The study further concluded that teachers' attitudes toward CBE are predominantly positive and favorably influence implementation. Teachers recognize the value of CBE for learner development and support its principles. However, the distinction between compliance and genuine acceptance noted by school heads, combined with waning motivation due to persistent challenges, indicates that positive attitudes alone are insufficient to sustain effective implementation. The variability in teacher confidence and willingness to expend extra effort suggests that attitude is dynamic and responsive to working conditions, resource availability, and leadership support. Therefore, sustaining positive attitudes requires ongoing structural support beyond initial training.

The study also concluded that teachers' professional competence positively influences CBE implementation, but content mastery and the ability to link theory to practice remain areas of concern. While teachers demonstrate strength in identifying and supporting struggling learners and understanding expected learning outcomes, variability in content mastery and practical application indicates that some teachers lack the depth of understanding required for effective CBE delivery. Teachers with specialized ECDE training appear better prepared than those with general primary training, suggesting that professional competence is closely tied to the specificity and quality of initial teacher preparation. Therefore, the influence of professional competence on CBE implementation is uneven and depends on the alignment between teachers' training background and the demands of the competency-based curriculum.

The study finally concluded that while teachers in Aldai Sub-County report implementing CBE, the fidelity and consistency of implementation vary significantly

across classrooms. The finding that consistent use of CBE instructional methods showed the greatest variability indicates that implementation is not uniform, with some teachers fully embracing the approach while others partially adopt or resist it. This variability is influenced by the interrelated teacher-based factors of pedagogical skills, attitudes, and professional competence, suggesting that no single factor determines implementation success. Therefore, effective CBE implementation requires simultaneous attention to strengthening teachers' pedagogical skills, sustaining positive attitudes, and deepening professional competence through coherent, ongoing professional development.

5.5 Recommendations

The study makes the following recommendations:

1. The Ministry of Education, through the Kenya Institute of Curriculum Development (KICD), should develop and implement a sustained professional development program specifically focused on competency-based assessment for pre-primary teachers in Aldai Sub-County. The program should emphasize systematic observation techniques, documentation methods, and formative assessment strategies that are manageable within large class contexts. Training should move beyond one-time workshops to include school-based mentoring and peer learning communities.

2. The Nandi County Government, as the employer of pre-primary teachers, should recruit and deploy additional ECDE teachers to reduce the pupil-teacher ratio in Aldai Sub-County. The current large class sizes were identified by school heads as a significant barrier to effective classroom management, individual learner support, and consistent implementation of learner-centered, activity-based pedagogies. Reducing class sizes would enable teachers to implement CBE as intended.

3. The Sub-County Directorate of Education should establish structured teacher support systems that address the waning motivation identified among some teachers. These systems should include regular teacher forums for sharing challenges and successes, recognition mechanisms for teachers demonstrating effective CBE implementation, and access to counselling support where needed. School heads should be trained in motivational leadership practices that sustain teacher enthusiasm beyond initial curriculum rollout.

4. The Teachers Service Commission, in collaboration with the Kenya Institute of Curriculum Development, should review and revise the pre-service teacher training curriculum to ensure it adequately prepares teachers for the specific demands of CBE, particularly in the areas of competency-based assessment, designing original learning activities, and linking theory to practice. Emphasis should be placed on practical, classroom-based training experiences rather than theoretical instruction alone.

5. The Ministry of Education should develop simplified, user-friendly documentation tools for competency-based assessment that reduce the paperwork burden on teachers while maintaining the integrity of learner progress tracking. Digital solutions that are appropriate for the resource context of Aldai Sub-County should be explored, and teachers should be trained in their effective use. The current documentation demands were identified as contributing to teacher exhaustion and reduced time for actual instruction.

6. School heads and ECDE centre managers should establish structured peer mentoring programs where teachers with stronger CBE implementation skills support those who continue to struggle. Teachers who demonstrate creativity in designing competency-based activities and effective assessment practices should be designated as lead teachers or mentors. This peer learning approach would address the identified variability in implementation fidelity while building local capacity that does not depend on external trainers.

7. The Kenya Institute of Curriculum Development should conduct regular refresher training for pre-primary teachers in Aldai Sub-County that specifically addresses the identified gaps in content mastery and linking theory to practice. Training should be differentiated based on teachers' prior qualifications, with additional support provided to teachers whose initial training was in general primary education rather than specialized ECDE.

5.6 Suggestions for Further Research

The current research was conducted in Aldai Sub-County, Nandi County, focusing on pre-primary teachers in public ECDE centres. The study therefore suggests that similar research be conducted in other sub-counties within Nandi County and in other counties to enable comparative analysis and broader generalization of findings across different

geographical, socio-economic, and infrastructural contexts. Such comparative studies would help determine whether the teacher-based factors identified in Aldai Sub-County are consistent with other settings or vary based on local conditions.

Further research should also investigate the relationship between teacher motivation and sustained CBE implementation over time, given that this study identified waning enthusiasm among some teachers who had initially embraced the reform. A longitudinal study tracking the same teachers over several years would provide insights into how attitudes, motivation, and implementation fidelity evolve as teachers move beyond the initial training phase and encounter persistent implementation challenges.

The study additionally recommends a mixed-methods study that incorporates direct classroom observations and learner competency assessments alongside teacher self-reports and school head interviews. Such a study would provide a more objective and comprehensive picture of the relationship between teacher-based factors and actual learner competency attainment, addressing the limitation of sole reliance on self-reported data.

Finally, future researchers should examine the effectiveness of specific interventions designed to address the identified gaps in pedagogical skills, particularly competency-based assessment. Intervention-based research that provides targeted professional development and measures changes in both teacher practices and learner outcomes would generate practical evidence to guide policy decisions and resource allocation for CBE implementation in early childhood education settings.

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APPENDICES

APPENDIX I: INTRODUCTORY LETTER

Dear Participant,

RE: REQUEST TO COLLECT DATA

Dear Participant,

I am Maureen Jeptoo Bitok, a student at Africa Nazarene University, currently undertaking masters' degree in Education (Early Childhood Education Option). I am conducting research on **Teacher-Based Factors Influencing the Implementation of Competency-Based Education in Pre-Primary Schools in Aldai Sub-County, Nandi County.**

Your participation in this study is highly valued, and I kindly request your consent to participate. By completing the enclosed questionnaire, you will contribute valuable insights to my research, which aims to explore teacher related factors on the implementation of Competence Based Education in Pre-primary schools in Aldai Sub-County, Nandi County.

Please note that all information provided will remain confidential and will only be used for academic purposes. Your identity will not be disclosed in any reports or publications resulting from this research.

If you agree to participate, please sign below to indicate your consent.

Signature: _____

Date: _____

Thank you for considering my request. Your contribution is greatly appreciated.

Yours faithfully,

Maureen Jeptoo Bitok

APPENDIX II: QUESTIONNAIRE FOR ECDE TEACHERS

Dear respondents,

I am a master's student at Africa Nazarene University carrying out a study on Teacher-Based Factors Influencing the Implementation of Competency-Based Education in Pre-Primary Schools in Aldai Sub-County, Nandi County, Kenya. Your insights and experiences as an ECDE teacher are extremely important for this research.

This questionnaire aims to collect information on work-related stressors, factors related to the employer, and the strategies you use to manage occupational stress. All responses will be kept strictly confidential and used only for academic purposes. Kindly provide honest answers based on your own experiences.

The questionnaire will take approximately 25-35 minutes to complete. Participation is voluntary, and you may withdraw at any time without any consequences.

Thank you for your cooperation and valuable contribution to this research.

SECTION A: DEMOGRAPHIC INFORMATION

Instructions: Please tick (✓) the appropriate box or fill in the blanks as applicable.

1. What is your gender?
    1. Male [ ]
    2. Female[ ]
2. Indicate your age bracket
    1. 20–29 years [ ]
    2. 30–39 years [ ]
    3. 40–49 years [ ]
    4. 50 years and above [ ]
3. What is your highest level of education?
    1. Certificate [ ]
    2. Diploma [ ]
    3. Bachelor's Degree [ ]
    4. Master's Degree [ ]
    5. Other (specify) _____
4. What is your professional qualification?
    1. ECDE Certificate [ ]
    2. ECDE Diploma [ ]

3. Degree in Early Childhood Education [ ]
4. Primary Teacher Training [ ]
5. Other (specify) _____

5. Indicate your teaching experience in pre-primary

1. Less than 2 years [ ]
2. 2-5 years [ ]
3. 6-10 years [ ]
4. Over 10 years [ ]

6. Indicate your employment status

1. Permanent and Pensionable [ ]
2. Contract [ ]
3. Temporary/Volunteer [ ]

Section B: Teachers' Pedagogical Skills and Their Effect on CBE Implementation

Please tick (√) the answer that describes your opinion to the following statements in relation to teachers' pedagogical skills. Using a 5-point Likert-type scale ranging from 1= Strongly disagree to 5=Strongly agree where 5 = strongly agree, 4 = Agree, 3 = Neutral, 2 = Disagree, 1 = strongly disagree

Statements	**5**	**4**	**3**	**2**	**1**
I consistently use learner-centered methods when teaching.					
I can design activities that develop specific competencies in learners.					
I maintain an effective classroom management system that supports learning.					
I utilize a range of assessment approaches to gauge the skills and abilities of students.					
I adapt teaching methods to suit different learning needs in my classroom.					
I integrate creative and interactive activities that enhance learner engagement.					

Section C: Teachers' Attitudes Toward CBE and Its Influence on Implementation

Please tick (√) the answer that describes your opinion to the following statements in relation to teachers' attitudes toward CBE. Using a 5-point Likert-type scale ranging from 1= Strongly disagree to 5=Strongly agree where 5 = strongly agree, 4 = Agree, 3 = Neutral, 2 = Disagree, 1 = strongly disagree

Statements	5	4	3	2	1
I believe that CBE is essential for improving learners' skills and competencies.					
I accept and support the principles of CBE in my teaching.					
I am motivated to implement CBE even when it requires extra effort.					
I feel confident in my ability to deliver lessons using CBE approaches.					
I view CBE positively and believe it enhances learner outcomes.					
My attitude toward CBE encourages colleagues and learners to engage effectively.					

Section D: Teachers' Competence and Its Role in Enhancing CBE Implementation

Please tick (√) the answer that describes your opinion to the following statements in relation to teachers' competence. Using a 5-point Likert-type scale ranging from 1= Strongly disagree to 5=Strongly agree where 5 = strongly agree, 4 = Agree, 3 = Neutral, 2 = Disagree, 1 = strongly disagree

Statements	5	4	3	2	1
I have mastery of the content I teach under CBE.					
I understand the learning outcomes expected in CBE at pre-primary level.					
I can link theoretical concepts to practical classroom activities.					
I integrate multiple learning areas to provide holistic competency development.					
I am able to identify and support learners who are struggling to meet competencies.					
My competence enables learners to actively engage and achieve the desired competencies.					

Section E: Implementation of CBE in Pre-Primary Schools

Please tick (√) the answer that describes your opinion to the following statements in relation to employee retention. Using a 5-point Likert-type scale ranging from 1= Strongly disagree to 5=Strongly agree where 5 = Strongly agree, 4 = Agree, 3 = Neutral, 2 = Disagree, 1 = strongly disagree

Statements	5	4	3	2	1
I consistently use CBE instructional methods in my classroom.					
I apply competency-based assessment practices regularly.					
I prepare and use instructional materials that support CBE.					
Classroom activities are aligned with specific competencies.					
I actively engage learners in activities that build competencies.					
I continuously monitor and adapt teaching to ensure competency attainment.					

APPENDIX III: INTERVIEW QUESTIONS FOR SCHOOL HEADS

Section A: Teachers' Pedagogical Skills

Main Question 1:

How would you assess the pedagogical skills of ECDE teachers in implementing Competency-Based Education?

Probing Questions:

- How effectively do teachers apply learner-centered instructional methods in class?
- How capable are teachers in designing competency-based learning activities?
- How would you describe teachers' classroom management skills in the context of CBE?
- How proficient are teachers in assessing learners' competencies?
- How well do teachers adapt teaching strategies to meet diverse learning needs?
- To what extent do teachers incorporate interactive and creative activities that enhance learner engagement?

Section B: Teachers' Attitudes Toward CBE

Main Question 2:

What are your views on teachers' attitudes toward Competency-Based Education and its implementation?

Probing Questions:

- How do teachers perceive the usefulness of CBE for learners' development?
- How willing are teachers to accept and apply CBE principles in their teaching?
- How motivated are teachers to implement CBE despite potential challenges?
- How confident do teachers feel when delivering lessons using CBE approaches?
- How positively do teachers view CBE in relation to learner outcomes?
- How do teachers' attitudes influence learners and colleagues in the implementation process?

Section C: Teachers' Professional Competence

Main Question 3:

How would you evaluate the professional competence of ECDE teachers in implementing CBE?

Probing Questions:

- How would you rate teachers' mastery of content under the CBE curriculum?
- How well do teachers understand the expected learning outcomes in CBE?
- How effectively can teachers link theory to practical classroom activities?
- How competent are teachers in integrating multiple learning areas for holistic development?
- How able are teachers to support learners who struggle to achieve competencies?
- How does teachers' competence influence learner engagement and attainment of competencies?

APPENDIX IV: INTRODUCTORY LETTER FROM THE UNIVERSITY

AFRICA NAZARENE
UNIVERSITY

P.O.Box: 53067 – 00200
Nairobi, Kenya.
Tel: 020 252 7170/1 – 5
Email: vc@anu.ac.ke
www.anu.ac.ke

7th May, 2026

Dr. David Ngigi
Ag. Director General /CEO
National Commission for Science & Technology
And Innovation (NACOSTI)
Off Waiyaki Way, Upper Kabete
P. O. Box 30623 -00100
Nairobi, KENYA

Dear Sir,

RE: RESEARCH PERMIT: Maureen Jeptoo Bitok (Student ID#14/J06CMED/007)

This is to confirm that Maureen Jeptoo Bitok (Student ID# 14/J06CMED/007) is a bona fide Master of Education student at Africa Nazarene University (ANU), School of Humanities – Education Department. She is pursuing Master of Arts in Education, a programme that entails both coursework and thesis.

Maureen successfully completed her coursework and defended her thesis proposal entitled:

"Teacher-based factors influencing the implementation of Competency-Based Education among pre-primary school learners in Aldai, Nandi County."

We kindly request that she be granted the necessary research permit to facilitate data collection and the successful completion of her thesis. Any assistance provided to her in this regard will be highly appreciated.

Faithfully,

Dr. Micky Mwamuye
Acting Dean of Post Graduate Studies & Director, Institute of Research
Africa Nazarene University

APPENDIX V: NACOSTI PERMIT

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

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Date of Issue: **25/May/2026**

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This is to Certify that Ms.. MAUREEN JEPTOO BITOK of Africa Nazarene University, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Nandi on the topic: TEACHER-BASED FACTORS INFLUENCING THE IMPLEMENTATION OF COMPETENCY-BASED EDUCATION AMONG PRE-PRIMARY SCHOOL LEARNERS IN ALDAI, NANDI COUNTY for the period ending : 25/May/2027.

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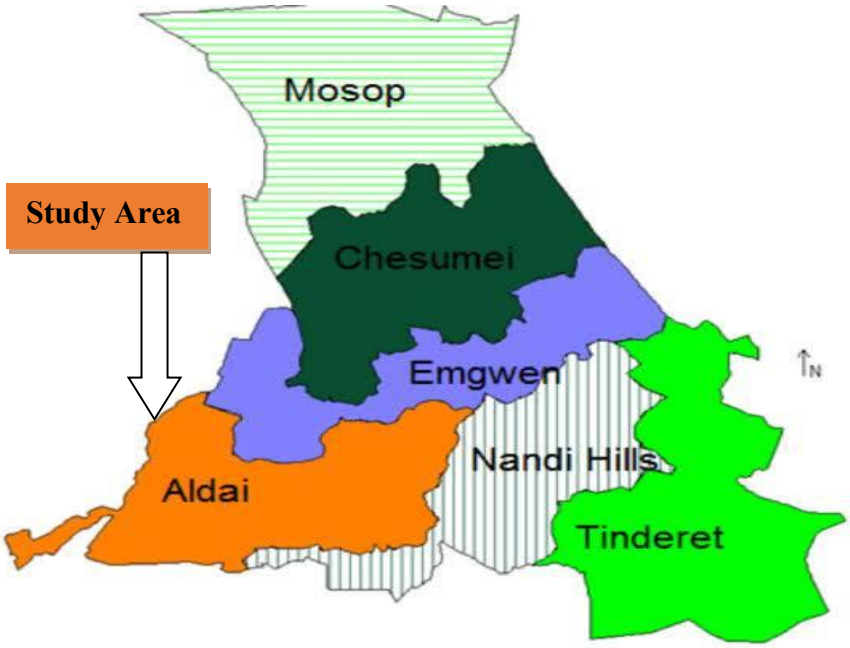
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APPENDIX VI: MAP OF STUDY AREA



APPENDIX VII: PLAGIARISM REPORT

MAUREEN JEPTOO BITOK PROJECT MAY 2026.doc

ORIGINALITY REPORT

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